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PUBLISHER'S NOTE.

We think the engraving in this number of the *ECLECTIC* is the finest that has ever appeared in the Magazine, and we hope our readers will appreciate it.

As we shall have more time for the preparation of our subjects during the coming year, we shall endeavor to keep them fully up to this standard.

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MARGUERITE.



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OF

FOREIGN LITERATURE, SCIENCE, AND ART.

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plete in 63 vols.

THE SABBATH. AN ADDRESS.*

BY PROFESSOR TYNDALL.

IN the opening words of a Lecture delivered in this city four years ago, I spoke of the desire and tendency of the present age to connect itself organically with preceding ages. The expression of this desire is not limited to the connection of the material organisms of to-day with those of the geologic past. It is equally manifested in the domain of mind. To this source, for example, may be traced the philosophical writings of Mr. Herbert Spencer. To it we are indebted for the series of learned works on "The Sources of Christianity," by M. Renan. To it we owe the researches of Professor Max Müller in comparative philology and mythology and the endeavor to found on these researches a "science of religion." In this relation,

moreover, the recent work of Principal Caird* is highly characteristic of the tendencies of the age. He has no words of vituperation for the older phases of faith. Throughout the ages he discerns a purpose and a growth, wherein the earlier and more imperfect religions constitute the natural and necessary precursors of the later and more perfect ones. Even in the slough of ancient paganism, Principal Caird detects a power ever tending toward amelioration, ever working toward the advent of a better state, and finally emerging in the purer life of Christianity.†

These changes in religious conceptions and practices correspond to the changes

* "Introduction to the Philosophy of Religion."

† In Professor Max Müller's "Introduction to the Science of Religion" some excellent passages occur, embodying the above view of the continuity of religious development.

* Presidential Address to the Glasgow Sunday Society, delivered in St. Andrew's Hall, October 25, 1880.

wrought by augmented experience in the texture and contents of the human mind. Acquainted as we now are with this immeasurable universe, and with the energies operant therein, the guises under which the sages of old presented the Maker and Builder thereof seem to us to belong to the utter infancy of things. To point to illustrations drawn from the heathen world would be superfluous. We may mount higher, and still find our assertion true. When, for example, Moses and Aaron, Nadab and Abihu, and seventy Elders of Israel are represented as climbing Mount Sinai, and actually seeing there the God of Israel, we listen to language to which we can attach no significance. "There is in all this," says Principal Caird, "much which, even when religious feeling is absorbing the latent nutriment contained in it, is perceived [by the philosophic Christian of to-day] to belong to the domain of materialistic and figurative conception." The children of Israel received without idealization the statements of their great law-giver. To them the tables of the law were true tablets of stone, prepared, engraved, broken, and re-engraved, while the graving tool which inscribed the law was held undoubtingly to be the finger of God. To us such conceptions are impossible. We may by habit use the words, but we attach to them no definite meaning. "As the religious education of the world advances," says Principal Caird, "it becomes impossible to attach any literal meaning to those representations of God, and his relations to mankind, which ascribe to Him human senses, appetites, passions, and the actions and experiences proper to man's lower and finite nature."

Principal Caird, nevertheless, ascribes to this imaging of the Unseen a special value and significance, regarding it as furnishing an objective counterpart to religious emotion, permanent but plastic—capable of indefinite change and purification in response to the changing moods and aspirations of mankind. It is solely on this mutable element that he fixes his attention in estimating the religious character of individuals or nations. "Here," he says, "the fundamental inquiry is as to the objective character of their religious ideas or beliefs. The

first question is, not how they feel, but what they think and believe; not whether their religion manifests itself in emotions more or less vehement or enthusiastic, but what are the conceptions of God and divine things by which these emotions are called forth?" These conceptions "of God and divine things" were, it is admitted, once "materialistic and figurative," and therefore objectively untrue. Nor is their purer essence yet distilled; for the religious education of the world still "advances," and is, therefore, incomplete. Hence the essentially fluzional character of that objective counterpart to religious emotion to which Principal Caird attaches most importance. He, moreover, assumes that the emotion is called forth by the conception. We have doubtless action and reaction here; but it may be questioned whether the conception which is a construction of the human understanding, could be at all put together without materials drawn from the experience of the human heart.*

The changes of conception here adverted to have not always been peacefully brought about. The "transmutation" of the old beliefs was often accompanied by conflict and suffering. It was conspicuously so during the passage from paganism to Christianity. In his work entitled "*L'Eglise Chrétienne*" Renan describes the sufferings of a group of Christians at Smyrna which may be taken as typical. The victims were cut up by the lash till the inner tissues of their bodies were laid bare. They were dragged naked over pointed shells. They were torn by lions; and finally, while still alive, were committed to the flames. But all these tortures failed to extort from them a murmur or a cry. The fortitude of the early Christians gained many converts to their cause; still, when the evidential value of fortitude is considered, it must not be forgotten that almost every faith can

* While reading the volume of Principal Caird I was reminded more than once of the following passage in Renan's "*Antéchrist*:" "Et d'ailleurs, quel est l'homme vraiment religieux qui répudie complètement l'enseignement traditionnel à l'ombre duquel il sentit d'abord l'idéal, qui ne cherche pas les conciliations, souvent impossibles, entre sa vieille foi et celle à laquelle il est arrivé par le progrès de sa pensée?"

point to its rejoicing martyrs. Even these Smyrna murderers had a faith of their own, the imperilling of which by Christianity spurred them on to murder. From faith they extracted the diabolical energy which animated them. The strength of faith is, therefore, no proof of the objective truth of faith. Indeed, at the very time here referred to we find two classes of Christians equally strong—Jewish Christians and Gentile Christians—who, while dying for the same Master, turned their backs upon each other, mutually declining all fellowship and communion.

Thus early the forces which had differentiated Christianity from paganism made themselves manifest in details, producing disunion among those whose creeds and interests were in great part identical. Struggles for priority were not uncommon. Jesus himself had to quell such contentions. His exhortations to humility were frequent. "He that is least among you shall be greatest of all." There were also conflicts upon points of doctrine. The difference which concerns us most had reference to the binding power of the Jewish law. Here dissensions broke out among the apostles themselves. Nobody who reads with due attention the epistles of Paul can fail to see that this mighty propagandist had to carry on a lifelong struggle to maintain his authority as a preacher of Christ. There were not wanting those who denied him all vocation. James was the head of the Church at Jerusalem, and Judeo-Christians held that the ordination of James was alone valid. Paul, therefore, having no mission from James, was deemed by some a criminal intruder. The real fault of Paul was his love of freedom, and his uncompromising rejection, on behalf of his Gentile converts, of the chains of Judaism. He proudly calls himself "The Apostle of the Gentiles." He says to the Corinthians, "I suppose I was not a whit behind the very chiefest apostles." Are they Hebrews? So am I. Are they Israelites? So am I. Are they of the seed of Abraham? So am I. Are they ministers of Christ? I am more; in labors more abundant, in stripes above measure, in deaths oft." He then establishes his right to the position which he claimed by recounting in detail the

sufferings he had endured. I leave it to you to compare this Christian hero with some of the "freethinkers" of our own day, who flaunt in public their cheap and trumpery theories of the great Apostle and the Master whom he served.

Paul was too outspoken to escape assault. All insincerity and double-facedness—all humbug, in short—were hateful to him; and even among his colleagues he found scope for this feeling. Judged by our standard of manliness, Peter, in moral stature, fell far short of Paul. In that supreme moment when his Master required of him "the endurance of a granite ledge" Peter proved "unstable as water." He ate with the Gentiles, when no Judeo-Christian was present to observe him; but when such appeared he withdrew himself, fearing those which were of the circumcision. Paul charged him openly with dissimulation. But Paul's quarrel with Peter was more than personal. Paul contended for a principle, determined to shield his Gentile children in the Lord from the yoke which their Jewish co-religionists would have imposed upon them. "If thou," he says to Peter, "being a Jew, livest after the manner of the Gentiles, and not as do the Jews, why compellest thou the Gentiles to live as the Jews?" In the spirit of a true liberal he overthrew the Judaic preferences for days, deferring at the same time to the claims of conscience. "Let him who desires a Sabbath," he virtually says, "enjoy it; but let him not impose it on his brother who does not." The rift thus revealed in the apostolic lute widened with time, and Christian love was not the feeling which long animated the respective followers of Peter and Paul.

We who have been born into a settled state of things can hardly realize the primitive commotions out of which this tranquillity has emerged. We have, for example, the canon of Scripture already arranged for us. But to sift and select these writings from the mass of spurious documents afloat at the time of compilation was a work of vast labor, difficulty, and responsibility. The age was rife with forgeries. Even good men lent themselves to these pious frauds, believing that true Christian doctrine, which

of course was *their* doctrine, would be thereby quickened and promoted. There were gospels and counter-gospels; epistles and counter-epistles—some frivolous, some dull, some speculative and romantic, and some so rich and penetrating, so saturated with the Master's spirit, that, though not included in the canon, they enjoyed an authority almost equal to that of the canonical books. The end being held to sanctify the means, there was no lack of manufactured testimony. The Christian world seethed not only with apocryphal writings, but with hostile interpretations of writings not apocryphal. Then arose the sect of the Gnostics—men who *know*—who laid claim to the possession of a perfect science, and who, if they were to be believed, had discovered the true formula for what philosophers called "the absolute." But these speculative Gnostics were rejected by the conservative and orthodox Christians of their day as fiercely as their successors the Agnostics—men who *don't know*—are rejected by the orthodox in our own. The martyr Polycarp one day met Marcion, an ultra-Paulite, and a celebrated member of the Gnostic sect. On being asked by Marcion whether he, Polycarp, did not know him, Polycarp replied, "Yes, I know you very well; you are the first-born of the devil." This is a sample of the bitterness then common. It was a time of travail—of throes and whirlwinds. Men at length began to yearn for peace and unity, and out of the embroilment was slowly consolidated that great organization the Church of Rome. The Church of Rome had its precursor in the Church at Rome. But Rome was then the capital of the world; and, in the end, that great city gave the Christian Church established in her midst such a decided preponderance that it eventually laid claim to the proud title of "Mother and Matrix of all other Churches."

With jolts and oscillations, resulting at times in overthrow, the religious life of the world has spun down "the ringing grooves of change." A smoother route may have been undiscoverable. At all events it was undiscovered. Many years ago I found myself in discussion

with a friend who entertained the notion that the general tendency of things in this world is toward an equilibrium of peace and blessedness to the human race. My notion was that equilibrium meant not peace and blessedness, but death. No motive power is to be got from heat save during its *fall* from a higher to a lower temperature, as no power is to be got from water save during its descent from a higher to a lower level. Thus also life consists, not in equilibrium but in the passage toward equilibrium. In man it is the leap from the potential, through the actual, to repose. The passage often involves a fight. Every natural growth is more or less of a struggle with other growths, in which, in the long run, the fittest survives. Some are, and must be, wiser than the rest; and the enunciation of a thought in advance of the moment provokes dissent and thus promotes action. The thought may be unwise; but it is only by discussion, checked by experience, that its value can be determined. Discussion, therefore, is one of the motive powers of life, and, as such, is not to be deprecated. Still one can hardly look without despair on the passions excited, and the energies wasted, over questions which, after ages of strife, are shown to be mere foolishness. Thus the theses which shook the world during the first centuries of the Christian era have, for the most part, shrunk into nothingness. It may, however, be that the human mind could not become fitted to pronounce judgment on a controversy otherwise than by wading through it. We get clear of the jungle by traversing it. Thus even the errors, conflicts, and sufferings of bygone times may have been necessary factors in the education of the world. Let nobody, however, say that it has not been a hard education. The yoke of religion has not always been easy, nor its burden light—a result arising, in part, from the ignorance of the world at large, but more especially from the mistakes of those who had the charge and guidance of a great spiritual force, and who guided it blindly. Looking over the literature of the Sabbath question, as catalogued and illustrated in the laborious, able, and temperate work of the late Mr. Robert Cox, we can hardly repress a sigh in thinking

* "L'Eglise Chrétienne," p. 450.

of the gifts and labors of intellect which this question has absorbed, and the amount of bad blood it has generated. Further reflection, however, reconciles us to the fact that waste in intellect may be as much an incident of growth as waste in nature.

When the various passages of the Pentateuch which relate to the observance of the Sabbath are brought together, as they are in the excellent work of Mr. Cox, and when we pass from them to the similarly collected utterances of the New Testament, we are immediately exhilarated by a freer atmosphere and a vaster sky. Christ found the religions of the world oppressed almost to suffocation by the load of formulas piled upon them by the priesthood. He removed the load, and rendered respiration free. He cared little for forms and ceremonies, which had ceased to be the raiment of man's spiritual life. To that life he looked, and it he sought to restore. It was remarked by Martin Luther that Jesus broke the Sabbath deliberately, and even ostentatiously, for a purpose. He walked in the fields; he plucked, shelled, and ate the corn; he treated the sick, and his spirit may be detected in the alleged imposition upon the restored cripple of the labor of carrying his bed on the Sabbath day. He crowned his protest against a sterile formalism by the enunciation of a principle which applies to us to-day as much as to the world in the time of Christ. "The Sabbath was made for man, and not man for the Sabbath."

Though the Jews, to their detriment, kept themselves as a nation intellectually isolated, the minds of individuals were frequently colored by Greek thought and culture. The learned and celebrated Philo, who was contemporary with Josephus, was thus influenced. Philo expanded the uses of the seventh day by including in its proper observance studies which might be called secular. "Moreover," he says, "the seventh day is also an example from which you may learn the propriety of studying philosophy. As on that day it is said God beheld the works that He had made, so you also may yourself contemplate the works of Nature." Permission to do this is exactly what the members of the Sunday Society humbly

claim. The Jew, Philo, would grant them this permission, but our stricter Christians will not. Where shall we find such samples of those works of Nature which Philo commended to the Sunday contemplation of his countrymen as in the British Museum? Within those walls we have, as it were, epochs disentombed—ages of divine energy illustrated. But the efficient authorities—among whom I would include a short-sighted portion of the public—resolutely close the doors, and exclude from the contemplation of these things the multitudes who have only Sunday to devote to them. Taking them on their own ground, we ask, Are the authorities logical in doing so? Do they who thus stand between them and us really believe those treasures to be the work of God? Do they or do they not hold, with Paul, that "the eternal power and Godhead" may be clearly seen from "the things that are made?" If they do—and they dare not affirm that they do not—I fear that Paul, in his customary language, would pronounce their conduct to be "without excuse."*

Science, which is the logic of nature, demands proportion between the house and its foundation. Theology sometimes builds weighty structures on a doubtful base. The tenet of Sabbath observance is an illustration. With regard to the time when the obligation to keep the Sabbath was imposed, and the reasons for its imposition, there are grave differences of opinion between learned and pious men. Some affirm that it was instituted at the Creation in remembrance of the rest of God. Others allege that it was imposed after the departure of the Israelites from Egypt, and in memory of that departure. The Bible countenances both interpretations. In Exodus we find the origin of the Sabbath described with unmistakable clearness thus: "For in six days the Lord made heaven and earth, the sea, and all that in them is, and rested the seventh day. Wherefore the Lord blessed the seventh day, and hallowed

* I refer, of course, to those who object to the opening of the museums on religious grounds. The administrative difficulty stands on a different footing. But surely *it* ought to vanish in presence of the public benefits which in all probability would accrue.

it." In Deuteronomy this reason is suppressed and another is assigned. Israel being a servant in Egypt, God, it is stated, brought them out of it through a mighty hand and by a stretched-out arm. "Therefore the Lord thy God commanded thee to keep the Sabbath day." After repeating the Ten Commandments, and assigning the foregoing origin to the Sabbath, the writer in Deuteronomy proceeds thus: "These words the Lord spake unto all your assembly in the mount, out of the midst of the fire, of the cloud and the thick darkness, with a loud voice; and he added no more." But in Exodus God not only added more, but something entirely different. This has been a difficulty with commentators—not formidable, if the Bible be treated as any other ancient book, but extremely formidable on the theory of plenary inspiration. I remember in the days of my youth being shocked and perplexed by an admission made by Bishop Watson in his celebrated "Apology for the Bible," written in answer to Tom Paine. "You have," says the bishop, "disclosed a few weeds which good men would have covered up from view." That there were "weeds" in the Bible requiring to be kept out of sight was to me, at that time, a new revelation. I take little pleasure in dwelling upon the errors and blemishes of a book rendered venerable to me by intrinsic wisdom and imperishable associations. But when that book is wrested to our detriment, when its passages are invoked to justify the imposition of a yoke, irksome because unnatural, we are driven in self-defence to be critical. In self-defence, therefore, we plead these two discordant accounts of the origin of the Sabbath, one of which makes it a purely Jewish institution, while the other, unless regarded as a mere myth and figure, is in violent antagonism to the facts of geology.

With regard to the alleged "proofs" that Sunday was introduced as a substitute for Saturday, and that its observance is as binding upon Christians as their Sabbath was upon the Jews, I can only say that those which I have seen are of the flimsiest and vaguest character. "If," says Milton, "on the plea of a divine command they impose upon us the observances of a particular day,

how do they presume, without the authority of a divine command, to substitute another day in its place?" Outside the bounds of theology no one would think of applying the term "proofs" to the evidence adduced for the change; and yet on this pivot, it has been alleged, turns the eternal fate of human souls.* Were such a doctrine not actual it would be incredible. It has been truly said that the man who accepts it sinks, in doing so, to the lowest depth of atheism. It is perfectly reasonable for a religious community to set apart one day in seven for rest and devotion. Most of those who object to the Judaic observance of the Sabbath recognize not only the wisdom but the necessity of some such institution, not on the ground of a divine edict, but of common sense.† They contend, however, that it ought to be, as far as possible, a day of cheerful renovation both of body and spirit, and not a day of penal gloom. There is nothing that I should withstand more strenuously than the conversion of the first day of the week into a common working day. Quite as strenuously, however, should I oppose its being employed as a day for the exercise of sacerdotal rigor.

The early reformers emphatically asserted the freedom of Christians from Sabbatical bonds; indeed, Puritan writers have reproached them with dimness of vision regarding the observance of the Lord's Day. "The fourth Commandment," says Luther, "literally understood, does not apply to us Christians; for it is entirely outward, like

* In 1785 the first mail-coach reached Edinburgh from London, and in 1788 it was continued to Glasgow. The innovation was denounced by a minister of the Secession Church of Scotland as "contrary to the laws both of Church and State; contrary to the laws of God; contrary to the most conclusive and constraining reasons assigned by God; and calculated not only to promote the hurt and ruin of the nation, but also the eternal damnation of multitudes."—Cox, vol. ii. p. 248. Even in our own day there are clergymen foolish enough to indulge in this dealing out of damnation.

† "That public worship," says Milton, "is commended and inculcated as a voluntary duty, even under the Gospel, I allow; but that it is a matter of compulsory enactment, binding on believers from the authority of this commandment, or of any Sinaitical precept whatever, I deny."

other ordinances of the Old Testament, all of which are now left free by Christ. If a preacher," he continues, "wishes to force you back to Moses, ask him whether you were brought by Moses out of Egypt? If he says no, then say, How, then, does Moses concern me, since he speaks to the people that have been brought out of Egypt? In the New Testament Moses comes to an end, and his laws lose their force. He must bow in the presence of Christ." "The Scripture," says Melancthon, "allows that we are not bound to keep the Sabbath; for it teaches that the ceremonies of the law of Moses are not necessary after the revelation of the Gospel. And yet," he adds, "because it was requisite to appoint a certain day that the people might know when to assemble together, it appeared that the Church appointed for this purpose the Lord's Day." I am glad to find my grand old namesake on the side of freedom in this matter. "As for the Sabbath," says the martyr Tyndale, "we are lords over it, and may yet change it into Monday, or into any other day, as we see need; or may make every tenth day holy day, only if we see cause why. Neither need we any holy day at all if the people might be taught without it." Calvin repudiated "the frivolities of false prophets who, in later times, have instilled Jewish ideas into the people. Those," he continues, "who thus adhere to the Jewish institution go thrice as far as the Jews themselves in the gross and carnal superstition of Sabbatism." Even John Knox, who has had so much Puritan strictness unjustly laid to his charge, knew how to fulfil on the Lord's Day the duties of a generous, hospitable host. His Master feasted on the Sabbath day, and he did not fear to do the same on Sunday.

Toward the end of the sixteenth century demands for a stricter observance of the Sabbath began to be made—probably in the first instance with some reason, and certainly with good intent. The manners of the time were coarse, and Sunday was often chosen for their offensive exhibition. But if there was coarseness on the one side, there was ignorance both of Nature and human nature on the other. Contemporaneously with the demands for stricter Sab-

bath rules, God's judgments on Sabbath-breakers began to be pointed out. Then and afterward "God's Judgments" were much in vogue, and man, their interpreter, frequently behaved as a fiend in the supposed execution of them. But of this subsequently. A Suffolk clergyman named Bownd, who, according to Cox, was the first to set forth at large the views afterward embodied in the Westminster Confession, adduces many such judgments. One was the case of a nobleman "who for hunting on the holy day was punished by having a child with a head like a dog's." Though he cites this instance, Bownd, in the matter of Sabbath observance, was very lenient toward noblemen. With courtier-like pliancy, which is not without its counterpart at the present time, he makes an exception in their favor: "Concerning the feasts of noblemen and great personages or their ordinary diet upon this day, because they represent in some measure the majesty of God on the earth, in carrying the image as it were of the magnificence and puissance of the Lord, much is to be granted to them."

Imagination once started in this direction was sure to be prolific. Instances accordingly grew apace in number and magnitude. Memorable examples of God's judgments upon Sabbath-breakers, and other like libertines, in their unlawful sports happening within this realm of England, were collected. Innumerable cases of drowning while bathing on Sunday were adduced, without the slightest attention to the logical requirements of the question. Week-day drownings were not dwelt upon, and nobody knew or cared how the question of proportion stood between the two classes of bathers. The Civil War was regarded as a punishment for Sunday desecration. The fire of London, and a subsequent great fire in Edinburgh, were ascribed to this cause; while the fishermen of Berwick lost their trade through catching salmon on Sunday. A Nonconformist minister named John Wells, whose huge volume is described by Cox as "the most tedious of all the Puritan productions about the Sabbath," is specially copious in illustration. A drunken pedler, "fraught with commodities" on Sunday, drops into a river;

God's retributive justice is seen in the fact. Wells travelled far in search of instances. One Utrich Schroetorus, a Swiss, while playing at dice on the Lord's Day, lost heavily, and apparently to gain the devil to his side broke out into this horrid blasphemy: "If fortune deceive me now I will thrust my dagger into the body of God." Whereupon he threw the dagger upward. It disappeared, and five drops of blood, which afterward proved indelible, fell upon the gaming table. The devil then appeared, and with a hideous noise carried off the vile blasphemer. His two companions fared no better. One was struck dead and turned into worms, the other was executed. A vintner who on the Lord's Day tempted the passers-by with a pot of wine was carried into the air by a whirlwind and never seen more. "Let us read and tremble," adds Mr. Wells. At Tidworth a man broke his leg on Sunday while playing at football. By a secret judgment of the Lord the wound turned into a gangrene, and in pain and terror the criminal gave up the ghost.

You may smile at these recitals, but is there not a survival of John Wells still extant among us? Are there not people in our midst so well informed regarding "the secret judgments of the Lord" as to be able to tell you their exact value and import, from the damaging of the share market through the running of Sunday trains to the calamitous overthrow of a railway bridge? Alphonso of Castile boasted that if he had been consulted at the beginning of things he could have saved the Creator some worlds of trouble. It would not be difficult to give the God of our more rigid Sabbatarians a lesson in justice and mercy; for his alleged judgments savor but little of either. How are calamities to be classified? Almost within earshot of those who note these Sunday judgments the poor miners of Blantyre are blown to pieces while engaged in their sinless week-day toil. A little farther off the bodies of two hundred and sixty workers, equally innocent of Sabbath-breaking, are entombed at Abercarne. Dinas holds its sixty bodies, while the present year has furnished its fearful tale of similar disasters. Whence comes the vision which differentiates the Sunday calamity from the week-day calamity,

seeing in the one a judgment of heaven, and in the other a natural event? We may wink at the ignorance of John Wells, for he lived in a pre-scientific age; but it is not pleasant to see his features reproduced, on however small a scale, before an educated nation in the latter half of the nineteenth century.

Notwithstanding their strictness about the Sabbath, which possibly carried with it the usual excess of a reaction, some of the strictest of the Puritan sect saw clearly that unremitting attention to business, whether religious or secular, was unhealthy. Considering recreation to be as necessary to health as daily food, they exhorted parents and masters, if they would avoid the desecration of the Sabbath, to allow to children and servants time for honest recreation on other days. They might have done well to inquire whether even Sunday devotions might not, without "moral culpability" on their part, keep the minds of children and servants too long upon the stretch. I fear many of the good men who insist on a Judaic observance of the Sabbath, and who dwell upon the peace and blessedness to be derived from a proper use of the Lord's Day, generalize beyond their data, applying the experience of the individual to the case of mankind. What is a conscious joy and blessing to themselves they cannot dream of as being a possible misery, or even a curse, to others. It is right that your most spiritually-minded men—men who, to use a devotional phrase, enjoy the closest walk with God—should be your pastors. But they ought also to be practical men, able to look not only on their personal feelings, but on the capacities of humanity at large, and willing to make their rules and teachings square with these capacities. There is in some minds a natural bias toward religion, as there is in others toward poetry, art, or mathematics; but the poet, artist, or mathematician who would seek to impose upon others not possessing his tastes the studies which give him delight, would be deemed an intolerable despot. The philosopher Fichte was wont to contrast his mode of rising into the atmosphere of faith with the experience of others. In his case the process, he said, was purely intellectual. Through reason he reached religion; while in the

case of many whom he knew this process was both unnecessary and unused, the bias of their minds sufficing to render faith, without logic, clear and strong. In making rules for the community these natural differences must be taken into account. The yoke which is easy to the few may be intolerable to the many, not only defeating its own immediate purpose, but frequently introducing recklessness or hypocrisy into minds which a franker and more liberal treatment would have kept free from both.*

The moods of the times—the “climates of opinion,” as Glanvil calls them—have also to be considered in imposing disciplines which affect the public. For the ages, like the individual, have their periods of mirth and earnestness, of cheerfulness and gloom. From this point of view a better case might be made out for the early Sabbatarians than for their survivors at the present day. Sunday sports[†] had grown barbarous; bull- and bear-baiting, interludes, and bowling were reckoned among them, and the more earnest spirits longed not only to promote edification but to curb excess. Sabbatarianism, therefore, though opposed, made rapid progress. Its opponents did what religious parties, when in power, always do—exercised that power tyrannically. They invoked the arm of the flesh to suppress or change conviction. In 1618 James the First published a declaration, known afterward as “The Book of Sports,” because it had reference to Sunday recreations. Puritan magistrates had interfered with the innocent amusements of the people, and the king wished to insure their being permitted after divine service to those who desired them; but not enjoined upon those who did not. Coarser

sports, and sports tending to immorality, were prohibited. Charles the First renewed the declaration of his father. Not content, however, with expressing his royal pleasure—not content with restraining the arbitrary civil magistrate—the king decreed that the declaration should be published “through all the parish churches,” the bishops in their respective dioceses being made the vehicles of the royal command. Defensible in itself, the declaration thus became an instrument of oppression. The High Church party, headed by Archbishop Laud, forced the reading of the documents on men whose consciences recoiled from the act. “The precise clergy,” as Hallam calls them, refused in general to comply, and were suspended or deprived in consequence. “But,” adds Hallam, “mankind loves sport as little as prayer by compulsion; and the immediate effect of the king’s declaration was to produce a far more scrupulous abstinence from diversions on Sundays than had been practised before.”

The Puritans, when they came into power, followed the evil example of their predecessors. They, the champions of religious freedom, showed that they could, in their turn, deprive their antagonists of their benefices, fine them, burn their books by the common hangman, and compel them to read from the pulpit things of which they disapproved. On this point Bishop Heber makes some excellent remarks. “Much,” he says, “as each religious party in its turn had suffered from persecution, and loudly and bitterly as each had, in its own particular instance, complained of the severities exercised against its members, no party had yet been found to perceive the great wickedness of persecution in the abstract, or the moral unfitness of temporal punishment as an engine of religious controversy.” In a very different strain writes the Dr. Bownd who has been already referred to as a precursor of Puritanism. He is so sure of his “doxy” that he will unflinchingly make others bow to it. “It behoveth,” he says, “all kings, princes, and rulers that profess the true religion to enact such laws and to see them diligently executed, whereby the honor of God in hallowing these days might be maintained. And, indeed, this is the chiefest

* “When our Puritan friends,” says Mr. Frederick Robertson, “talk of the blessings of the Sabbath, we may ask them to remember some of its curses.” Other and more serious evils than those recounted by Mr. Robertson may, I fear, be traced to the system of Sabbath observance pursued in many of our schools. At the risk of shocking some worthy persons, I would say that the invention of an invigorating game for fine Sunday afternoons, and healthy indoor amusement for wet ones, would prove infinitely more effectual as an aid to moral purity than most of our plans of religious meditation.

end of all government, that men might not profess what religion they list, and serve God after what manner it pleaseth them best, but that the parts of God's true worship [Bowndean worship] might be set up everywhere, and all men compelled to stoop unto it."

There is, it must be admitted, a sad logical consistency in the mode of action advocated by Dr. Bownd, and deprecated by Bishop Heber. As long as men hold that there is a hell to be shunned they seem logically warranted in treating lightly the claims of religious liberty upon earth. They dare not tolerate a freedom whose end they believe to be eternal perdition. Cruel they may be for the moment, but a passing pang vanishes when compared with an eternity of pain. Unreligious men might call it hallucination, but if I accept undoubtingly the doctrine of eternal punishment, then, whatever society may think of my act, I am self-justified not only in "letting" but in destroying that which I hold dearest, if I believe it to be thereby stopped in its progress to the fires of hell. Hence, granting the assumptions common to both, the persecution of Puritans by High Churchmen, and of High Churchmen by Puritans, had a basis in reason. I do not think the question can be decided on *à priori* grounds, as Bishop Heber seemed to suppose. It is not the abstract wickedness of persecution so much as our experience of its results that causes us to set our faces against it. It has been tried, and found the most ghastly of failures. This experimental fact overwhelms the plausibilities of logic, and renders persecution, save in its meaner and stealthier aspects, in our day impossible.

The combat over Sunday continued, the Sabbatarians continually gaining ground. In 1643 the divines who drew up the famous document known as the Westminster Confession began their sittings in Henry the Seventh's Chapel. Milton thought lightly of these divines, who, he said, were sometimes chosen by the whim of members of Parliament; but the famous Puritan, Baxter, extolled them for their learning, godliness, and ministerial abilities. A journal of their earlier proceedings was kept by one of their members. On the 13th of Novem-

ber, 1644, he records the occurrence of "a large debate" on the sanctification of the Lord's Day. After fixing the introductory phraseology, the assembly proceeded to consider the second proposition: "To abstain from all unnecessary labors, worldly sports, and recreations." It was debated whether "worldly thoughts" should not be added. "This was scrupulous," says the naïve journalist, "whether we should not be a scorn to go about to bind men's thoughts, but at last it was concluded upon to be added, both for the more piety and for that the fourth Command includes it." The question of Sunday cookery was then discussed and settled; and, as regards public worship, it was decreed "that all the people meet so timely that the whole congregation be present at the beginning, and not depart until after the blessing. That what time is vacant between or after the solemn meetings of the congregation be spent in reading, meditation, repetition of sermons," etc. These holy men were full of that strength already referred to as imparted by faith. They needed no natural joy to brighten their lives, mirth being displaced by religious exaltation. They erred, however, in making themselves a measure for the world at large, and insured the overthrow of their cause by drawing too heavily upon average human nature. "This much," says Hallam, "is certain, that when the Puritan party employed their authority in proscribing all diversions, and enforcing all the Jewish rigor about the Sabbath, they rendered their own yoke intolerable to the young and gay; nor did any other cause, perhaps, so materially contribute to bring about the Restoration."

In 1646, the "Confession" being agreed upon, it was presented to Parliament, which, in 1648, accepted and published its doctrinal portion. There was no lack of definiteness in the assembly's statements. They spoke as confidently of the divine enactments as if each member had been personally privy to the counsels of the Most High. When Luther in the Castle of Marburg had had enough of the arguments of Zuinglius on the "real presence," he is said to have ended the controversy by taking up a bit of chalk and writing firmly and finally upon the table, "*Hoc est corpus*

meum." Equally downright and definite were the divines at Westminster. They were modest in offering their conclusions to Parliament as "humble advice," but there was no flicker of doubt either in their theology or their cosmology. "From the beginning of the world," they say, "to the Resurrection of Christ the last day of the week was kept holy as a Sabbath; while from the Resurrection it was changed into the first day of the week, which in Scripture is called the Lord's Day, and is to be continued to the end of the world as the Christian Sabbath." The notions of the divines regarding the "beginning and the end" of the world were primitive, but decided. An ancient philosopher was once mobbed for venturing the extravagant opinion that the sun, which appeared to be a circle less than a yard in diameter, might really be as large as the whole country of Greece. Imagine a man with the knowledge of a modern geologist uttering his blasphemies among these Westminster divines! "It pleased God," they continue, "at the beginning, to create, or make nothing, the world and all things therein, whether visible or invisible, in the space of six days, and all very good." Judged from our present scientific standpoint, this, of course, is mere nonsense. But the calling of it by this name does not exhaust the question. The real point of interest to me, I confess, is not the cosmological errors of the Assembly, but the hold which theology has taken of the human mind, and which enables it to survive the ruin of what was long deemed essential to its stability. On this question of "essentials" the gravest mistakes are constantly made. Save as a passing form, no part of objective religion is essential. Religion lives not by the force and aid of dogma, but because it is ingrained in the nature of man. To draw a metaphor from metallurgy, the moulds have been broken and reconstructed over and over again, but the molten ore abides in the ladle of humanity. An influence so deep and permanent is not likely soon to disappear; but of the future form of religion little can be predicted. Its main concern may possibly be to purify, elevate, and brighten the life that now is, instead of treating it as the more or

less dismal vestibule of a life that is to come.

The term "nonsense," which has been just applied to the views of creation enunciated by the Westminster Assembly, was used, as already stated, in reference to our present knowledge and not to the knowledge of three or four centuries ago. To most people the earth was at that time all in all, the sun and moon and stars being set in heaven merely to furnish lamplight to our planet. But though in relation to the heavenly bodies the earth's position and importance were thus exaggerated, very inadequate and erroneous notions were entertained regarding the shape and magnitude of the earth itself. Theologians were horrified when first informed that our planet was a sphere. The question of antipodes exercised them for a long time, most of them pouring ridicule on the idea that men could exist with their feet turned toward us, and with their heads pointing downward. I think it is Sir George Airy who refers to the case of an over-curious individual asking what we should see if we went to the edge of the world and looked over. That the earth was a flat surface on which the sky rested was the belief entertained by the founders of all our great religious systems. Even liberal Protestant theologians stigmatized the Copernican theory as being "built on fallible phenomena and advanced by many arbitrary assumptions against evident testimonies of Scripture."* Newton finally placed his intellectual crowbar beneath these ancient notions, and heaved them into irretrievable ruin.

Then it was that penetrating minds, seeing the nature of the change wrought by the new astronomy in our conceptions of the universe, also discerned the difficulty, if not the impossibility, of accepting literally the Mosaic account of creation. They did not reject it, but they assigned to it a meaning entirely new. Dr. Samuel Clarke, who was the personal friend of Newton and a supporter of his theory, threw out the idea that "possibly the six days of creation

* Such was the view of Dr. John Owen, who is described by Cox as "the most eminent of the Independent divines."

might be a typical representation of some greater periods." Clarke's contemporary, Dr. Thomas Burnet, wrote with greater decision in the same strain. The Sabbath being regarded as a shadow or type of that heavenly repose which the righteous will enjoy when this world has passed away, "so these six days of creation are so many periods or millenniums for which the world and the toils and labors of our present state are destined to endure."* The Mosaic account was thus reduced to a poetic myth—a view which afterward found expression in the vast reveries of Hugh Miller. But if this symbolic interpretation, which is now generally accepted, be the true one, what becomes of the Sabbath day? It is absolutely without ecclesiastical meaning; and the man who was executed for gathering sticks on that day must be regarded as the victim of a rude legal rendering of a religious epic.

There were many minor offshoots of discussion from the great central controversy. Bishop Horsley had defined a day "as consisting of one evening and one morning, or, as the Hebrew words literally import, of the decay of light and the return of it." But what, then, it was asked, becomes of the Sabbath in the Arctic regions, where light takes six months to "decay," and as long to "return?" Differences of longitude, moreover, render the observance of the Sabbath at the same hours impossible. To some people such questions might appear trifling; to others they were of the gravest import. Whether the Sabbath should stretch from sunset to sunset, or from midnight to midnight, was also a subject of discussion. Voices, moreover, were heard refusing to acknowledge the propriety of the change from Saturday to Sunday, and the doctrine of Seventh Day observance was afterward represented by a sect.† The

earth's sphericity and rotation, which had at first been received with such affright, came eventually to the aid of those afflicted with qualms and difficulties regarding the respective claims of Saturday and Sunday. The sun apparently moves from east to west. Suppose, then, we start on a voyage round the world in a westerly direction. In doing so we sail away, as it were, from the sun, which follows and periodically overtakes us, reaching the meridian of our ship each succeeding day somewhat later than if we stood still. For every 15° of longitude traversed by the vessel the sun will be exactly an hour late; and after the ship has traversed twenty-four times 15° , or 360° —that is to say, the entire circle of the earth—the sun will be exactly a day behind. Here, then, is the expedient suggested by Dr. Wallis, F.R.S., Savilian Professor of Geometry in the University of Oxford, to quiet the minds of those in doubt regarding Saturday observance. He recommends them to make a voyage round the world, as Sir Francis Drake did, "going out of the Atlantic Ocean westward by the Straits of Magellan to the East Indies, and then from the east, returning by the Cape of Good Hope homeward, and let them keep their Saturday-Sabbath all the way. When they come home to England they will find their Saturday to fall upon our Sunday, and they may thenceforth continue to observe their Saturday-Sabbath on the same day with us!"

Large and liberal minds were drawn into this Sabbatarian conflict, but they were not the majority. Between the booming of the bigger guns we have an incessant clatter of small arms. We ought not to judge superior men without reference to the spirit of their age. This is an influence from which they cannot escape, and so far as it extenuates their errors it ought to be pleaded in their favor. Even the atrocities of the individual excite less abhorrence

* Cox, vol. ii. p. 211, note.

† Theophilus Brabourne, a sturdy Puritan minister of Norfolk, whom Cox regards as the founder of this sect, thus argued the question in 1628: "And now let me propound unto your choice these two days: the Sabbath day on Saturday or the Lord's Day on Sunday; and keep whether of the twain you shall in conscience find the more safe. If you keep the Lord's Day, but profane the Sabbath day, you walk in great danger and peril (to say the

least) of transgressing one of God's eternal and inviolable laws—the Fourth Commandment. But, on the other side, if you keep the Sabbath day, though you profane the Lord's Day, you are out of all gunshot and danger, for so you transgress no law at all, since neither Christ nor his apostles did ever leave any law for it."

when they are seen to be the outgrowth of his time. But the most fatal error that could be committed by the leaders of religious thought is the attempt to force into their own age conceptions which have lived their life, and come to their natural end, in preceding ages. History is the record of a vast experimental investigation—of a search by man after the best conditions of existence. The Puritan attempt was a grand experiment. It had to be made. Sooner or later the question must have forced itself upon earnest believers possessed of power. Is it not possible to rule the world in accordance with the wishes of God as revealed in the Bible? Is it not possible to make human life the copy of a divine pattern? The question could only have occurred in the first instance to the more exalted minds. But instead of working upon the inner forces and convictions of men, legislation presented itself as a speedier way to the attainment of the desired end. To legislation, therefore, the Puritans resorted. Instead of guiding, they repressed, and thus pitted themselves against the unconquerable impulses of human nature. Believing that nature to be depraved, they felt themselves logically warranted in putting it in irons. But they failed; and their failure ought to be a warning to their successors.

Another error, of a far graver character than that just noticed, may receive a passing mention here. At the time when the Sabbath controversy was hottest, and the arm of the law enforcing the claims of the Sabbath strongest and most unsparing, another subject profoundly stirred the religious mind of Scotland. A grave and serious nation, believing intensely in its Bible, found therein recorded the edicts of the Almighty against witches, wizards, and familiar spirits, and were taught by their clergy that such edicts still held good. The same belief had overspread the rest of Christendom, but in Scotland it was intensified by the rule of Puritanism and the natural earnestness of the people. I have given you a sample of the devilish cruelties practised on the Christians at Smyrna. These tortures were far less shocking than those inflicted upon witches in Scotland. I say less shock-

ing because the victims at Smyrna courted martyrdom. They counted the sufferings of this present time as not worthy to be compared with the glory to be revealed, while the sufferers for witchcraft, in the midst of all their agonies, felt themselves God-forsaken, and saw before them, instead of the glories of heaven, the infinite tortures of hell. Not to the fall of Sarmatia, but to the treatment of witches in the seventeenth century, ought to be applied the words of your poet Campbell:

Oh! bloodiest picture in the book of time!

The mind sits in sackcloth and ashes while contemplating the scenes so powerfully described by Mr. Lecky in his chapter on Magic and Witchcraft. But I will dwell no further upon these tragedies than to point out how terrible are the errors which our clergy may commit after they have once subscribed to the creed and laws of Judaism, and constituted themselves the legal exponents and interpreters of those laws.*

Turning over the leaves of the Pentateuch, where God's alleged dealings with the Israelites are recorded, it strikes one with amazement that such writings should be considered binding upon us. The overmastering strength of habit, the power of early education—possibly a defiance of the claims of reason involved in the very constitution of the mental organ—are illustrated by the fact that learned men are still to be found willing to devote their time and endowments to these writings, under the assumption that they are not human but divine. As an ancient book, claiming the same origin as other books, the Old Testament is without a rival, but its unnatural exaltation provokes recoil and rejection. Leviticus, for example, when read in the light of its own age, is full of interest and instruction.* We see there described the efforts of the best men then existing to civilize the rude society around them. Violence is restrained by violence medicinally applied. Passion is checked, truth and justice are

* The sufferings of reputed witches in the seventeenth century, as well as those of the early Christians, might be traced to panics and passions similar in kind to those which produced the atrocities of the Reign of Terror in France.

extolled, and all in a manner suited to the needs of a barbarian host. But read in the light of our age, its conceptions of the deity are seen to be shockingly mean, and many of its ordinances brutal. Foolishness is far too weak a word to apply to any attempt to force upon a scientific age the edicts of a Jewish lawgiver. The doom of such an attempt is sure; and if the destruction of things really precious should be involved in its failure, the blame will justly be ascribed to those who obstinately persisted in the attempt. Let us then cherish our Sunday as an inheritance derived from the wisdom of the past; but let it be understood that we cherish it because it is in principle reasonable, and in practice salutary. Let us uphold it because it commends itself to that "light of nature" which, despite the catastrophe in Eden, the most famous theologians mention with respect, and not because it is enjoined by the thunders of Sinai. We have surely heard enough of divine sanctions founded upon myths, which, however beautiful and touching when regarded from the proper point of view, are seen, when cited for our guidance as matters of fact, to offer warrant and condonation for the greatest crimes, or to sink to the level of the most palpable absurdities.*

In this, as in all other theological discussions, it is interesting to note how character colors religious feeling and conduct. The reception into Christ's kingdom has been emphatically described as being born again. A certain likeness of feature among Christians ought, one would think, to result from a common spiritual parentage. But the likeness is not observed. Christian communities embrace some of the loftiest

and many of the lowest of mankind. It may be urged that the lofty ones only are truly religious. To this it is to be replied that the others are often as religious as their natures permit them to be. *Character* is here the overmastering force. That religion should influence life in a high way implies the pre-existence of natural dignity. This is the mordant which fixes the religious dye. He who is capable of feeling the finer glow of religion would possess a substratum available for all the relations of life, even if his religion were taken away. Religion, on the other hand, does not charm away malice, or make good defects of character. I have already spoken of persecution in its meaner forms. On the lower levels of the theological warfare such are commonly resorted to. If you reject a dogma on intellectual grounds, it is because there is a screw loose in your morality; some personal sin besets and blinds you; the intellect is captive to a corrupt heart. Thus good men have been often calumniated by others who were not good; thus frequently have the noble become a target for the wicked and the mean. With the advance of public intelligence the day of such assailants is happily drawing to a close.

These reflections, which connect themselves with reminiscences outside the Sabbath controversy, have been more immediately prompted by the aspersions cast by certain Sabbatarians upon those who differ from them. Mr. Cox notices and reproves some of these. According to the Scottish Sabbath Alliance, for example, all who say that the Sabbath was an exclusively Jewish institution, including, be it noted, such men as Jeremy Taylor and Milton, "clearly prove either their dishonesty or ignorance, or inability to comprehend a very plain and simple subject."

This becomes real humor when we compare the speakers with the persons spoken of. A distinguished English dissenter, who deals in a lustrous but rather cloudy logic, declares that whoever asks demonstration of the divine appointment of the Christian Sabbath "is blinded by a moral cause to those exquisite pencillings, to those unobtruded vestiges, which furnish their clearest testimony to this Institute." A third writer charitably professes his readiness "to admit, in reference to this and many other duties,

* Melancthon writes finely thus: "Wherefore our decision is this: that those precepts which learned men have committed to writing, transcribing them from the common reason and common feelings of human nature, are to be accounted as no less divine than those contained in the tables of Moses."—Dugald Stewart's translation. Hengstenberg quotes from the same reformer as follows: "The law of Moses is not binding upon us, though some things which the law contains are binding, because they coincide with the law of nature."—See Cox, vol. i. p. 389. The Catechism of the Council of Trent expresses a similar view. There are, then, "data of ethics" over and above the revealed ones.

that it is quite a possible thing for a mind that is desirous of *evading the evidence* regarding it to succeed in doing so." A fourth luminary, whose knowledge obviously extends to the mind and methods of the Almighty, exclaims, "Is it not a principle of God's Word in many cases to give enough and no more—to satisfy the devout, not to overpower the *uncandid*?" It is of course as easy as it is immoral to argue thus; but the day is fast approaching when the most atrabilious presbyter will not venture to use such language. Let us contrast with it the utterance of a naturally sweet and wholesome mind. "Since all Jewish festivals, new moons, and Sabbaths," says the celebrated Dr. Isaac Watts, "are abolished by St. Paul's authority; since the religious observation of days in the 14th chapter to the Romans, in general, is represented as a matter of doubtful disputation; since the observation of the Lord's Day is not built upon any express or plain institution by Christ or His apostles in the New Testament, but rather on examples and probable inferences, and on the reasons and relations of things—I can never pronounce anything hard or severe upon any fellow-Christian who maintains real piety in heart and life, though his opinion on this subject may be very different from mine." Thus through the theologian radiates the gentleman.

Up to the end of eighteenth century the catalogue of Mr. Cox embraces 320 volumes and publications. It is a monument of patient labor, while the remarks of the writer, which are distributed throughout the catalogue, illustrate both his intellectual penetration and his reverent cast of mind. He wrought hard and worthily with a pure and noble aim. I had the pleasure of meeting Mr. Cox at Dundee in 1867, when the British Association met there, and I could then discern the earnestness with which he desired to see his countrymen relieved from the Sabbath incubus, and at the same time the moderation and care for the feelings of others with which he advocated his views. He has also given us a rapid "Sketch of the Chief Controversies about the Sabbath in the Nineteenth Century." The sketch is more compressed than the catalogue, and the changes of thought in passing from au-

thor to author, being more rapid, are more bewildering. It is to a great extent what I have already called a clatter of small arms, mingled with the occasional discharges of mightier guns. One thing is noticeable and regrettable in these discussions, namely, the unwise and indiscriminating way in which different Sunday occupations are classed together and condemned. Bishop Blomfield, for example, seriously injures his case when he places drinking in gin-shops and sailing in steamboats in the same category. I remember some years ago standing by the Thames at Putney with my lamented friend, Dr. Bence Jones, when a steamboat on the river, with its living freight, passed us. Practically acquainted with the moral and physical influence of pure oxygen, my friend exclaimed, "What a blessing for these people to be able thus to escape from London into the fresh air of the country!" I hold the physician to have been right and, with all respect, the bishop to have been wrong.

Bishop Blomfield also condemns resorting to tea-gardens on Sunday. But we may be sure that it is not the gardens, but the minds which the people bring to them which produce disorder. These minds possess the culture of the city, to which the bishop seems disposed to confine them. Wisely and soberly conducted—and it is perfectly possible to conduct them wisely and soberly—such places might be converted into aids toward a life which the bishop would commend. Purification and improvement are often possible where extinction is neither possible nor desirable. I have spent many a Sunday afternoon in the public gardens of the little university town of Marburg, in the company of intellectual men and cultivated women, without observing a single occurrence which, as regards morality, might not be permitted in the bishop's drawing-room. I will add to this another observation made at Dresden on a Sunday, after the suppression of the insurrection by the Prussian soldiery in 1849. The victorious troops were encamped on the banks of the Elbe, and this is how they occupied themselves. Some were engaged in physical games and exercises which in England would be considered innocent in the extreme; some were conversing sociably; some

singing the songs of Uhland, while others, from elevated platforms, recited to listening groups poems and passages from Goethe and Schiller. Through this crowd of military men passed and re-passed the girls of the city, linked together with their arms round each other's necks. During hours of observation I heard no word which was unfit for a modest ear; while from beginning to end I failed to notice a single case of intoxication.*

Here we touch the core of the whole matter—the appeal to experience. Sabbatical rigor has been tried, and the question is: Have its results been so conducive to good morals and national happiness as to render criminal every attempt to modify it? The advances made in all kinds of knowledge in this our age are known to be enormous; and the public desire for instruction, which the intellectual triumphs of the time naturally and inevitably arouse, is commensurate with the growth of knowledge. Must this desire, which is the motive power of all real and healthy progress, be quenched or left unsatisfied lest Sunday observances, unknown to the early Christians, repudiated by the heroes of the Reformation, and insisted upon for the first time during a period of national gloom and suffering in the seventeenth century, should be interfered with? To justify this position the demonstration of the success of Sabbatarianism must be complete. Is it so? Are we so much better than other nations who have neglected to adopt our rules that we can point to the working of these rules in the past as a conclusive reason for maintaining them immovable in the future? The answer must be, No. My Sabbatarian friends, you have no ground to stand upon. I say friends, for I would far rather have you as friends than as enemies—far rather see you converted than annihilated. You possess a strength and earnestness with which the world cannot dispense; but to be productive of anything permanently good, that strength and earnestness must build upon the sure foundation of human nature.

* The late Mr. Joseph Kay, as Travelling Bachelor of the University of Cambridge, has borne strong and earnest testimony to the "humanizing and civilizing influence" of the Sunday recreations of the German people.

This is that law of the universe spoken of so frequently by your illustrious countryman, Mr. Carlyle, to quarrel with which is to provoke and precipitate ruin. Join with us then in our endeavors to turn our Sundays to better account. Back with your support the moderate and considerate demands of the Sunday Society, which scrupulously avoids interfering with the hours devoted by common consent to public worship. Offer the museum, the picture gallery, and the public garden as competitors to the public house. By so doing you will fall in with the spirit of your time, and row with, instead of against, the resistless current along which man is borne to his destiny.

Most of you here are Liberals; perhaps Radicals, perhaps even Democrats or Republicans. I am a Conservative. The first requisite of true conservatism is foresight. Humanity grows, and foresight secures room for future expansion. In your walks in the country you sometimes see a wall built round a growing tree. So much the worse for the wall, which is sure to be rent and ruined by the energy which it opposes. We have here represented not a true, but a false and ignorant conservatism. The real conservative looks ahead and prepares for the inevitable. He forestalls revolution by securing, in due time, sufficient amplitude for the national vibrations. He is a wrong-headed statesman who imposes his notions, however right in the abstract, on a nation unprepared for them. He is no statesman at all who, without seeking to interpret and guide it in advance, merely waits for the more or less coarse expression of the popular will, and then constitutes himself its vehicle. *Untimeliness* is sure to be the characteristic of the work of such a statesman. In virtue of the position which he occupies, his knowledge and insight ought to be in advance of the public knowledge and insight; and his action, in like degree, ought to precede and inform public action. This is what I want my Sabbatarian friends to bear in mind. If they look abroad from the vantage ground which they occupy, they can hardly fail to discern that the intellect of this country is gradually ranging itself upon our side. Statesmen, clergymen, philosophers, and moralists are

joining our standard. Whether, therefore, those to whom I appeal hear, or whether they forbear, we are sure to unlock, for the public good, the doors of the museums and galleries which we have purchased, and for the maintenance of which we pay. But I would have them not only prepare for the coming change, but to aid and further it by anticipation. They will thus, in a new fashion, "dish the Whigs," prove themselves men of foresight and common-sense, and obtain a fresh lease of the respect of the community.

As the years roll by, the term "materialist" will lose more and more of its evil connotation; for it will be more and more seen and acknowledged that the true spiritual nature of man is bound up with his material condition. Wholesome food, pure air, cleanliness—hard work if you will, but also fair rest and recreation—these are necessary not only to physical but to spiritual well-being. The seed of the spirit is cast in vain amid stones and thorns, and thus your best utterances become idle words when addressed to the acclimatized inhabitants of our slums and alleys. Drunkenness ruins the substratum of resolution. The physics of the drunkard's brain are incompatible with moral strength. Here your first care ought to be to cleanse and improve the organ. Break the sot's associations; change his environment; alter his nutrition; displace his base imaginations by thoughts drawn from the purer sources which we seek to render accessible to him. For two centuries, I am told, the Scottish clergy have proclaimed walking on Sunday to be an act of "heaven-daring profaneness—an impious encroachment on the inalienable prerogative of the Lord God." Such language is now out of date. If we could establish Sunday tramways between our dens of filth and iniquity and the nearest green fields, we should, in so doing, be preaching a true gospel. And not only the denizens of our slums, but the proprietors of our factories and counting-houses, might, perhaps, be none the worse for an occasional excursion in the company of those whom they employ. A most blessed influence would also be shed upon the clergy if they were enabled from time to time to change their "sloth urbane" for

healthy action on heath or mountain. Baxter was well aware of the soothing influence of fields, and countries, and walks and gardens, on a fretted brain. Jeremy Taylor showed a profound knowledge of human nature when he wrote thus: "It is certain that all which can innocently make a man cheerful does also make him charitable. For grief and age and sickness and weariness, these are peevish and troublesome; but mirth and cheerfulness are content and civil and compliant and communicative, and love to do good and swell up to felicity only upon the wings of charity. Upon this account, here is pleasure enough for a Christian at present; and if a facetious discourse, and an amicable friendly mirth, can refresh the spirit and take it off from the vile temptation of peevish, despairing, uncomplying melancholy, it must needs be innocent and commendable." I do not know whether you ever read Thomas Hood's "Ode to Rae Wilson," with an extract from which I will close this address. Hood was a humorist; and to some of our graver theologians might appear a mere feather-head. But those who have read his more serious works will have discerned in him a vein of deep poetic pathos. I hardly know anything finer than the apostrophe in which he turns from those

That bid you baulk

A Sunday walk,

And shun God's work as you should shun your own;

to the description of what Sunday might be, and is, to him who is competent to enjoy it aright.

Thrice blessed, rather, is the man, with whom
The gracious prodigality of nature,
The balm, the bliss, the beauty, and the bloom,
The bounteous providence in ev'ry feature,
Recall the good Creator to his creature,
Making all earth a fane, all heav'n its dome!
To his tuned spirit the wild heather-bells

Ring Sabbath knells;

The jubilate of the soaring lark

Is chant of clerk;

For choir, the thrush and the gregarious linnet;

The sod's a cushion for his pious want;

And, consecrated by the heav'n within it,

The sky-blue pool, a font.

Each cloud-capp'd mountain is a holy altar;

An organ breathes in every grove;

And the full heart's a Psalter,

Rich in deep hymns of gratitude and love!

The Nineteenth Century.

LADY HESTER STANHOPE.

JAMES, first Earl Stanhope, distinguished himself during the reigns of William III. Anne, and George I. as a soldier, statesman, and diplomatist. His son, Philip, who succeeded him, was a man equally remarkable for his mathematical attainments and his liberal political opinions. His son, again, Charles—third earl—had more genius than the other two put together, though it was accompanied by an extraordinary eccentricity of character. His mechanical inventions were numerous. Among them were a form of printing press, which still bears his name, an improved lock-system for canals, and two curious calculating machines, one of which performed addition and subtraction, the other multiplication and division. In politics he was an ardent Republican, and wrote a reply—able enough from his point of view—to Burke's "Reflections on the French Revolution." He married a daughter of the great Lord Chatham, and a sister of the, perhaps, no less great William Pitt.

Hester Stanhope was the first child born of this marriage. She came into the world in 1776. Four years later, she and her two younger sisters, Griselda and Lucy, lost their mother. Their father, in the following year, married a second. By his second wife he had three sons.

Little Hester and her sisters, during their early childhood, were left much to the management of governesses and maidservants. Their stepmother was devoted to the world and its pleasures. It would seem that, when in London, she rose at ten, and spent the morning in having her hair dressed by a French *coiffeur*, visits, dinner, the opera, and card parties occupying the remainder of the day. Their father was absorbed in his scientific pursuits, and took but little notice of them.

As for her Swiss governesses, Lady Hester found their rule intolerable, and, in after years, denounced their system of training in no measured language. They subjected her to torture with the back-board, squeezed in her waist to what appeared to them a proper degree of slimness, and, worst of all, endeavored to flatten her foot by pressure—that foot

the instep of which was so high that "a kitten could walk under the sole of it!" Like all precocious children, she was constantly asking embarrassing questions, and as constantly being told that, on the topics she had chosen for inquiry, she must remain uninformed till she grew older. In spite of these checks to perfect knowledge, which irritated her considerably, she managed to lead a happy life enough. Her lessons were no trouble to her. She passed her leisure hours in riding or roaming about the delightful grounds of Chevening, and in building castles in the air.

She grew up handsome.

"At twenty," she said of herself when talking over old times, "my complexion was like alabaster, and at five paces distance the sharpest eye could not distinguish my pearl necklace from my skin; my lips were of such a beautiful carnation that, without vanity, I can affirm that very few women had the like. A dark blue shade under the eyes, and the blue veins that were observable through the transparent skin, heightened the brilliancy of my features. Nor were the roses wanting in my cheeks; and to all this was added a permanency in my looks that fatigue of no sort could impair."

Her powers of conversation were to match, and she had as high an opinion of them as of her personal attractions. "In my language," she declared, "there was something striking and original that caught everybody's attention."

Her father's republican mania advanced apace. It had already driven him to the commission of strange actions. He had put down his carriage and horses, had caused his arms and coronet to be removed from his plate, and had consigned to a garret some splendid Spanish tapestry, with which one of the rooms at Chevening was hung, on the ground that such furniture was "aristocratical." He resolved to have his two younger sons, now growing up, apprenticed to trades. His two younger daughters escaped from his control by marrying; but Lady Hester, who remained beneath his roof until she was twenty-four, at length received such harsh treatment at his hands that she quitted Chevening for good in 1800, and went to live with her maternal grand-

mother, the Dowager Lady Chatham, at Burton Pynsent, in Somersetshire. Here she found a comfortable home, with sober, staid, yet kind companionship, and what she valued perhaps more than all—unrestricted liberty. Her frank, fearless disposition made her a favorite among the neighbors. She was a daring horsewoman, and thought nothing of breaking in young animals which nobody else would venture to mount. She went up occasionally to town, and was there introduced to her kinsman Lord Camelford, who, being a notorious bully, and a skilful marksman, was the terror of the milder portion of male society.* This strange man seems to have had a power of fascinating those with whom he sympathized. Lady Hester took a fancy to him, and he to her; and old Lady Chatham, knowing his evil reputation, was in alarm lest the cousins should make a match of it. However, they never did. His crack-brained lordship drove the dashing Lady Hester about in his curricule, and on one occasion nearly strangled before her eyes a turnpike gateman who had tendered him some false coppers in change. Another day, when she dined with a party of friends at Richmond, he placed several of his carriages at her disposal; and she, writing afterward to Mrs. Stapleton, the friend and companion of her grandmother, to record the event, says:

"After a most pleasant dinner, which was made particularly so by some of the prince's regiment joining us at Richmond, I drove Lord Camelford's curricule back to town, with a smart man and two beaux in his gig, a German wagon and four, and two or three more open carriages. I took the lead, and arrived in town about eleven at night, took up Lord Camelford in Bond Street, and went on to supper at Mrs. Egerton's."†

In March, 1801, William Pitt, who for seventeen years had been Prime Minister, resigned on the question of Catholic Emancipation, and gave place to Mr. Addington. Freed thus, for a space, from the cares of office, he retired to Walmer Castle, his residence as

Lord Warden of the Cinque Ports, and spent his time in farming and other country pursuits. He was visited from time to time by a few chosen friends; but in the autumn of 1802 a new sort of guest appeared, in the person of his niece, Lady Hester Stanhope, who took Walmer on her road to Dover, where she was to embark for a tour abroad with her Cheshire friends the Egertons. The visit, though brief, was a success in every way. A day or two before leaving the castle, again addressing Mrs. Stapleton, she expresses herself thus:

"I have so many letters to write in Mr. Pitt's absence that I will not enter upon his praises, which neither my heart nor my pen could do justice to. To tell you how happy I am here in his society would be paying a very bad compliment to the powers of your imagination. I have not seen a female face since I arrived, only just that society I should always like to live in—delightful Mr. Long, Mr. Steele, and Mr. Canning. I love the friends of great men as much as I hate the company of toadeaters."‡

Lady Hester and the Egertons spent several months abroad. During her absence her grandmother died. On her return, therefore, to this country, she had no home to which to go. Being long since estranged from her father, she could not repair to Chevening.

"Of her two uncles," writes the late Lord Stanhope, "Lord Chatham, since the death of the Dowager Countess, had taken the charge of another and an orphan niece, Miss Eliot. There remained to Lady Hester only the hope of Mr. Pitt. But the hope founded on his generous temper was at once fulfilled. He welcomed his niece to his house as her permanent abode."†

A man cannot change his mode of life suddenly without a wrench. A confirmed bachelor, calm and self-contained, Pitt had found solitude quite tolerable for many years, and no doubt would have continued to find it so had not his really kind heart prompted him to befriend his sister's child. As for Lady Hester, the new sphere on which she now entered was one in which she was fairly calculated to make a figure. Her position as niece and constant companion of so great a statesman (even when in retreat) was a prominent one; but when, a year later, he again became Prime Minister, an exciting period in her

* Lord Camelford was killed by Mr. Best, in a duel of his own seeking, four years afterward.

† The letter from which this is an extract will be found in the Appendix to the "Memoirs" of the late Lord Combermere.

* "Combermere Memoirs"—Appendix.

† "Life of William Pitt," vol. iv. p. 85.

life began. Acting as assistant private secretary to her uncle, she was well informed as to the plans and proceedings of the cabinet. Expectant peers, and hunters after places and distinctions, fawned on her, in the hope of reaching Pitt's ear through her. It is not surprising that she made, as she certainly did, many enemies while her reign lasted. She had a keen sense of the ridiculous, and was naturally inclined to satire. Besides, she prided herself on her blunt way of saying whatever she thought. Her sharp observations and repartees, as related by herself, are oftener remarkable for rudeness than for wit.

But this state of things came to an end. Pitt, whose health had been breaking up for some time, received his death-blow in the news of Napoleon's triumph at Austerlitz. He died in the following month. There can be little doubt that he was both fond and proud of his niece, while she in return loved him with a firm affection. The loss of him overwhelmed her. It was not till a month of tearless grief had passed that a burst of weeping relieved her.

She now removed to Montagu Square, where she kept house for her half-brothers Charles and James, both of whom had entered the army. A government pension of £1200 a year, which had been conferred on her in compliance with her uncle's dying request, placed her in easy circumstances. The change, however, from Downing Street and Walmer to Montagu Square, from a conspicuous to a comparatively obscure position, was sorely felt. What was even more vexing to one of her pride and spirit were the studied slights she had to encounter at the hands of the many whom she had offended in her influential days. Among these was the Prince Regent (afterward George IV.), who, by her account, turned his royal back on her, and cut her, on the first occasion of her appearing at court after Pitt's death.

While at Walmer in 1803, at the moment that a French invasion of this country from Boulogne was expected, Lady Hester had met General Sir John Moore, then stationed at Sandgate. The general was not only foremost in his profession, but handsome in person, and

winning in manner. The two met constantly at reviews held on the Kentish coast, and the friendship thus begun seems to have ripened into a warmer feeling on both sides. Her official life, with its various excitements, being over, all Lady Hester's interest, next to the welfare of her brothers, was centred in the career of Moore, who, at the commencement of the Peninsular War, was appointed to a command in Spain. An interesting letter which he wrote her from Salamanca in November, 1808, has been preserved. In it he speaks in the following desponding tone of his prospects against the French, who vastly outnumbered the English forces, and their Spanish allies :

"We are in a scrape ; but I hope we shall have spirit to get out of it. You must, however, be prepared to hear very bad news. The troops are in as good spirits as if things were better ; their appearance and good conduct surprise the green Spaniards, who have never before seen any but their own or French soldiers. Farewell my dear Lady Hester. If I extricate myself, and those with me, from our present difficulties, and if I can beat the French, I shall return to you with satisfaction ; but if not, it will be better that I should never quit Spain."

On the 16th of the following January he fell covered with glory at Corunna. To Charles Stanhope, who was serving on his staff, and was standing by him as he expired, he uttered the words, "Stanhope, remember me to your sister." But before the day was over Stanhope himself had fallen.

Her existence in town had been growing more and more distasteful to Lady Hester ; but now, with a load of sorrow at her heart, she longed for change of any sort. She took a cottage near the little town of Builth, in South Wales, and hastening thither, endeavored to forget the world. She busied herself in doctoring the poor and in attending to her garden and dairy. But the novelty of rural retirement quickly wore off. She was not made for inaction. Her next desire was to travel. With the intention of making a tour in Sicily, she quitted England early in 1810—never, as it turned out, to return. Her brother James accompanied her ; but, on reaching Gibraltar, he received orders to join his regiment at Cadiz. Accordingly, she

* "Lord Stanhope's Miscellanies."

took what proved to be a final farewell of him, and continued her journey to Malta. Here she was received with the utmost distinction. Dinners and fêtes were given in her honor by the governor, General Oakes, who lent her the palace of St. Antonio as a residence. She was induced to abandon her intention of visiting Sicily, owing to the threatened descent there of the Neapolitan troops under Murat. Bending her course therefore eastward, she visited in succession Corfu, Zante, Corinth, and Athens. It was from Constantinople, whither she next proceeded, that she addressed to the French government an application for permission to settle in the south of France. However, in consequence of the bitter feeling then existing between that country and England, her application was refused. With Turkey and the Turks she was favorably impressed, and among them she passed altogether eleven months. Wishing, on one occasion, to visit a Turkish man-of-war, she overruled the captain's objection to receiving a woman on board his ship by presenting herself in "a pair of overalls, a military great-coat, and cocked hat."

We next find her on board a Greek vessel, bound for Alexandria. In her train were a doctor, a maid, a cook, and several other attendants. She carried with her a load of valuable presents, intended for the pashas in Syria, where she seems to have already contemplated settling. Scio and Rhodes were touched at in turn. Shortly after leaving the latter island the ship, beaten back by a violent southerly gale, sprang a leak. All hands were ordered to the pump; but the pump would not work. Buckets were plied unceasingly to bale out the water fast collecting in the hold. In the midst of this scene of confusion Lady Hester retained all her presence of mind. She tapped a cask of wine and distributed its contents in small quantities among the sailors, to cheer them at their toil. About three o'clock in the afternoon, when the gale was at its worst, the south-west point of Rhodes was sighted, two miles off. An attempt was made to steer the ship in that direction, but she would not answer to her helm. She was now, too, so waterlogged that she seemed in instant danger of sinking.

The long-boat was therefore launched, and the vessel abandoned. With her compact freight of twenty-five people the boat was rowed toward a rocky islet less distant than the mainland. The waves that broke over her at frequent intervals threatened to swamp her. At length a little creek was entered, and the party managed to land. But what a position was theirs! As all their provisions had been left behind in the sinking ship, they were without food, and of fresh water there was none. Hungry and exhausted they lay down to sleep. Lady Hester and her maid in a cave, which afforded protection from the drenching spray, the rest outside. As the night wore on the fury of the wind abated somewhat. Upon this, the master of the vessel, a surly Greek, announced his intention of endeavoring to reach the mainland with his crew, declaring that it was better to perish in that attempt than to remain on a rock to starve. He refused to take the travellers with him, as their number, he said, would overweight the boat. He promised, though, to light a signal fire on reaching land, and to send back the boat to fetch them. He and the crew then set out. Presently a bright blaze on the beach showed that they had landed.

The day dawned, but there were no signs of the returning boat. The famished, shivering people on the rock were beginning to think that the Greeks had abandoned them to their fate, when, about sunset, a dark object was seen approaching. It was the long-boat, manned by some of the sailors, who, having obtained liquor on shore, were more than half drunk. They brought with them food, and thus Lady Hester and her companions were enabled to break a fast which had lasted thirty hours. The mainland was reached not without peril. As the boat grounded a giant wave swept her from stern to prow, and her dripping occupants were with difficulty dragged ashore. It was raining in torrents. Lady Hester and her maid, Mrs. Fry, took refuge in a windmill; but Mrs. Fry, perceiving rats running up and down the mill ropes, fled from the place in terror, and refused to return. In the morning the weather cleared. A blazing sunshine quickly

dried the clothes of the shipwrecked travellers, and put some heart into them. After a scramble of eight hours, partly on mule-back, partly on foot, they reached the village of Lindo, where Lady Hester was overtaken by a feverish cold and laid up for a fortnight.

Her loss by the shipwreck had been serious. "My locket," she writes, "and the valuable snuff-box Lord Sligo gave me, and two pelisses, are all I have saved;* all the travelling equipage for Syria etc., all gone; the servants naked and unarmed: but the great loss of all is the medicine chest." Further on she continues, "Yet do not fancy us dull, for we danced the Pyrrhic dance with the peasants in the villages on our way hither."

Meantime, her doctor was dispatched to the town of Rhodes, and afterward to Smyrna, to procure money and clothes. It was at this period that Lady Hester decided on adopting the male costume of Asiatic Turkey. The notion was a sensible one, though it shocked the prejudices of her friends at home. "I can assure you," remarks she to a correspondent, "that if I ever looked well in anything it is in the Asiatic dress, quite different from the European Turks." From Rhodes she was fortunate enough to obtain a passage in an English frigate to Alexandria, whence, having replenished her purse, and completed her outfit, she went on to Cairo. Her arrival at the Egyptian capital made a great sensation. Arrayed in a costume of purple velvet embroidered in gold, she visited the Pasha Mehemet Ali, who received her with due honor, reviewed his troops in her presence, and presented her with "a charger magnificently caparisoned." This animal she sent to England as a present to H.R.H. the Duke of York. An Egyptian groom took charge of the horse, and remained for some time in the duke's service at Oatlands. On his return to his own country he was asked what had struck him most in England, his reply being, "The absence of fleas, and the small number of people who told lies."

* She omits to mention a sum of forty guineas given her by her brother James when they parted at Gibraltar. This money she kept by her for many years; but at last, when pressed by debt in Syria, she was compelled to part with it for what its weight would fetch.

But Lady Hester was now impatient to be in Syria. She took ship, therefore, at Damietta, and, after a prosperous voyage of five days, landed safely at Jaffa.

In her youth she had been told by a fortune-teller that she was destined to make the pilgrimage to Jerusalem, and to become Queen of the Jews. As she journeyed toward the Holy City she alluded to this prophecy half in a joke; but it would seem that she really attached importance thereto, and saw in the country around her the scene of her future sovereignty. After Jerusalem, she visited Acre; then Saida, where she was entertained for several days by the Emir Beshyr, Prince of the Druzes. By this time a report had got about that an English princess of unbounded wealth, scattering money in all directions, was travelling through the country, and the cupidity of the Turkish population was duly aroused. Her ladyship probably set the report going herself, for she was now bound for Damascus, a city where foreigners generally, and Christians in particular, were held in detestation. As she drew near the city she was advised by her native escort to veil her face in conformity with Turkish usage, since, in spite of her masculine attire, it was known that she was a woman. But our heroine had no intention of deferring to prejudice. So she made her entry unveiled amid a throng of spectators. A residence had been secured for her in the Christian quarter; but this she only occupied for a day or so. She removed thence to the Turkish quarter, being determined, says her doctor, "by a strong measure, at once to give herself a title to consequence beyond any other European who had before visited Damascus." She took daily rides through the most frequented streets; but so far from receiving insults (as some imagined she might), her appearance was greeted with acclamations, and libations of coffee were poured on the ground before her horse. It was rumored that she was of Ottoman descent, the natural whiteness of her face being attributed to the use of paint. This enthusiasm, which lasted throughout her stay, was doubtless kept alive by a liberal diffusion of coin.

Meantime she was laying plans for a

journey to the ruins of Palmyra. She was told that the undertaking was a dangerous one, for the intervening desert was infested by Bedouin Arabs, who lived by robbery, and who, though they might not harm her, would be certain to seize her and demand an exorbitant ransom for her release. The Pasha of Damascus, to whom she communicated her intention, offered her an armed escort of a thousand men. But she chose a more courageous, and certainly a more effectual, way of meeting the difficulty. The Chief of the Bedouins, Mahanna el Fadel, was then encamped within reach of Hamah on the Orontes. With only two attendants, Lady Hester made the journey thither, and presenting herself fearlessly before the old Arab, addressed him thus: "I know you are a robber, and that I am now in your power, but I fear you not. I have left all those behind who were offered to me as a safeguard, and all my countrymen who could be considered as my protectors, to show you that it is you, and your people, whom I have chosen as such." Her mode of dealing with him pleased Mahanna, and he assured her that if she relied upon his protection and honor alone he would see that she was conducted in safety to Palmyra and back. She remained with the Bedouins, and accompanied them in their wanderings for a week, during which time she was treated with respect and hospitality, and invariably styled the *Meleki*, or queen. On her return to Hamah she busied herself with preparations for her expedition. The influence she had gained over the Bedouins gratified her thirst for power. "To-morrow," she says in a letter to the governor of Malta, "I mount my horse with seventy Arabs, and am off for Palmyra at last. Mahanna waits my orders, just as Lord Paget with his cavalry would do yours, were you to command a great army." Her departure from Hamah was witnessed by curious crowds, who lined the road for half a league out of the town. The procession was a long one. The Bedouin chieftains, among whom were two of Mahanna's sons, rode immediately behind the *Meleki* and formed her body-guard. They carried long lances plumed with ostrich feathers. Lady Hester's maid, Mrs. Fry, figured among

the equestrians. At the first halting-place she had another encounter with rats, which greeted her in such numbers that she had to pass the night in the open air.

It took the party a week to reach their destination. They approached Palmyra by the Valley of Tombs, an avenue four thousand feet in length, flanked by lofty pillars, and terminating in a triumphant arch. But before reaching this point they were met by an advance-guard of Palmyrenes, sent on by their sheikh to receive the queen with every demonstration of delight. Lady Hester herself, in a letter to Lord Sligo, thus describes the scene:

"About three hundred people came out to meet me. They were armed with matchlocks and guns, all surrounding me, and firing in my face, with most dreadful shouts, and savage music and dances. They played all sorts of antics, till we arrived at the triumphal arch at Palmyra. The inhabitants were arranged in the most picturesque manner on the different columns leading to the Temple of the Sun. The space before the arch was occupied by dancing girls most fancifully and elegantly dressed, and beautiful children placed upon the projecting parts of the pillars with garlands of flowers. One, suspended over the arch, held a wreath over my head. After having stopped a few minutes, the procession continued; the dancing girls immediately surrounded me. The lancemen took the lead, followed by the poets from the banks of the Euphrates, singing complimentary odes and playing upon various Arabian instruments. A tribe of hale Palmyrenes brought up the rear. We took up our habitation in the Temple of the Sun, and remained there a week."

It is probable that the new Zenobia would have made a longer stay in her capital had not a disquieting rumor reached her conductors to the effect that a hostile tribe had come into the neighborhood with the intention of surprising and plundering the party. The return journey was therefore begun rather suddenly, and was accomplished in safety. The *Meleki* re-entered Hamah in triumph, not a little proud of her achievement. Before her only three Europeans had succeeded in reaching Palmyra. The expedition is said to have cost her £500.

The succeeding warm season was passed by Lady Hester at Latakia on the sea-coast. At times she talked of returning to Europe; but that she had not really any such intention is proved by her hiring a disused monastery of the

Greek Catholics, near Saida, as a residence. Hardly had she settled down there when the plague in its most virulent form broke out at Saida. From this danger she escaped to the village of Meshmûshy, a delicious spot, high up among the topmost peaks of Mount Lebanon, surrounded by vineyards and mulberry grounds. Her active mind was now intent on a new project. She had learned from a manuscript which had come into her possession, and which she believed to be authentic, that a former pasha of Damascus, El Gezzar by name, had amassed enormous wealth, and in order to disappoint the porte of the acquisition of it at his death, had hidden it under ground at Ascalon. She applied to the Turkish government for permission to hunt for these treasures, offering the porte all pecuniary benefit that might result from her labors, and reserving for herself the honor only. The Porte approved of the proposal, and on her return to her residence near Saida, in the beginning of 1815, she was visited by a special messenger from Constantinople (a Capugi Bashi), bringing *firman*s empowering her to obtain assistance from the various pashas in prosecuting her purpose. She had been spending money lavishly already; and, feeling that her own means would be insufficient at such a moment, she determined to demand payment from the English government in return for the "reputation" she was giving the English name. "I must beg of you," she said, addressing her doctor, "to keep a regular account of every article of my expenditure in this business, and I will send in my bill to government by Mr. Liston,* when, if they refuse to pay me, I will put it in the newspapers and expose them."

She arrived at Ascalon in state, accompanied by the aforesaid Capugi Bashi, and attended by a military escort and a numerous staff of servants. The party encamped upon the plain, beneath tents mostly bright green or blue. The scene was a lively one. There was a ceaseless murmur of voices and neighing of horses; a coming and going of couriers from and to Jaffa. The work-

men employed to excavate were peasants pressed by the government. They received no pay, but were fed and well treated. Lady Hester generally remained in her tent during the forenoon, but at two she would ride about to see how the works progressed. On her appearance the workmen would shout, and renew their digging with fresh activity. After three days' labor the diggers came upon what were believed to be the foundations of a heathen temple. Some odds and ends of pottery were also unearthed. Later on a colossal statue of fine workmanship was discovered. It was headless, and had but one arm and leg, yet was otherwise in good preservation. This Lady Hester had broken into pieces, lest, to use her own words, "malicious people say that I came to search for antiquities for my country, and not for treasures for the porte." The works were continued briskly; but, to the grievous disappointment of all concerned, none of the expected treasures were found. A fortnight after its commencement the attempt was abandoned.

This failure had a depressing effect upon the spirits of the Queen of Palmyra, more especially as her claim for remuneration, duly forwarded to the Home Government, was refused. Nevertheless, the business was not without result, for it proved her influence at Constantinople, and thereby increased her prestige in Syria.

Her generous and successful efforts in bringing to justice the murderers of the French engineer officer, Colonel Boutin, ought not to go unrecorded here. The colonel, with whom she was but slightly acquainted, had, while traversing the country inhabited by the savage Ansâry tribe, been robbed and murdered. Lady Hester thought that the pasha of Damascus would have been called on by the French government to inquire into the matter; but as time went on, and nothing was done, she resolved to investigate it herself. She sent messengers in disguise into the Ansâry territory, by this means ascertaining in what village the crime had been committed. She then, after infinite trouble, prevailed upon the pasha to send an armed force against the tribe, the result being that the murderers were

* Then British ambassador at Constantinople.

delivered up and executed, and their village burned to the ground. She was at Antioch, in the midst of the Ansárys, at the time this happened; and she did not shrink from stoutly declaring to several of the tribe, who had assembled in front of the house she occupied, that it was she herself who had revenged the Frenchman's death.

It was in 1818 that Lady Hester Stanhope took up her abode at Dar Joon, the position of which, at once secluded and commanding, took her fancy. It was a small house standing on the summit of a conically-shaped mount, surrounded on all sides by yawning valleys. It was approached by steep paths running zig-zag among masses of rock and low brushwood. At the summit, which presented a flat surface of considerable extent, the vegetation was rich and verdant. She made many alterations in her new residence, which those who saw it have described as a collection of detached buildings connected by covered alleys. The adjacent ground was converted into a lovely garden, and the whole surrounded by a fortress-like wall some fourteen feet in height. She assembled around her here a household of thirty people, principally Arabs and black slaves. These she ruled with a rod of iron. Once, when she had convicted them of sundry pilferings, she erected a couple of stakes near her door, as a warning to future offenders that they might expect the dread punishment of empalement. The Emir Beshyr, Prince of the Druzes, was the potentate in whose dominions she was now living. She and he had at first been on apparently amicable terms; but they soon became deadly enemies.

The Emir, a treacherous and suspicious man, grew jealous of her authority in the Lebanon district, and strove to get rid of her. He threatened to bastinado any of the Joon villagers who entered her service; he tried to prevent provisions reaching her from Saida; he set men to guard a spring from which her people fetched water. At one time, indeed, it was given out that he meditated attacking her in her stronghold. The interference of the British Ambassador at Constantinople, to whom Lady Hester complained of these insults, brought the Emir to reason, while her

ladyship revenged herself at her leisure. The Emir was just then involved in a desperate quarrel with the Turkish governor of Acre (Abdallah Pasha), under whose authority he really was, as well as with the Sheykh Beshyr, a rival who disputed his rule. Lady Hester, disgusted by the tales she heard of the Emir's cruelties, and mindful of his past conduct toward herself, took a secret but active part in this struggle. She subsidized both Abdallah and the Sheykh, employed hosts of spies to hamper the Emir, and harbored all the fugitives who fled to her from his wrath. On his sending to demand the surrender of some of these fugitives, his messenger was given a flat refusal, and the following instructions:

"Tell your master that he is a dog and a monster; and that if he wishes to try his strength with *me*, I am ready."

As years rolled on, Lady Hester, though continuing to figure in all the stirring events which succeeded each other in Syria, turned her thoughts to subjects more abstruse. She acquired, or professed to have acquired, a deep knowledge of astrology. This enabled her to prophesy. Her prophecies, otherwise vague, were remarkable as pointing to her own splendid destiny. In her interview with Lamartine (whose star, it seems, agreed with hers) she spoke at great length of the coming of the Messiah. She showed him also two Arab mares, each of which had a groom specially appointed to look after her. On these animals, which nobody was permitted to mount, the prophetess intimated that the Messiah and herself would make their entry into Jerusalem.

People who heard her speak like this might have imagined that Lady Hester had taken leave of her senses. But such was not the case. To have drawn the eyes of the world on herself, she would have made, if possible, more startling statements. The accounts given us of her by such visitors as Lamartine, Prince Pückler-Muskau, and the author of "*Eöthen*," are much alike. Knowing that, through them, her portrait would be given to society at home, she posed in their presence as the Circe of Mount Lebanon, and made use of language appropriately mystic. It is from her doctor, who saw her almost daily, that we obtain an idea of the woman as she

really was. Her habits, as described by him, were strange. She never opened a book, and would have no time-piece near her. She remained in bed in the early part of the day, issuing orders, rating her servants, and so on. Toward evening she would rise and dine. Afterward, seated on her divan, and puffing at a *tchibouque*, she would descend altogether from the stairs, and pour forth a stream of gossiping reminiscences of her former life in London. Time and distance had done nothing to diminish her rancorous hatred for England and everything English. Forgetting that she had voluntarily renounced all connection with home and kindred, she sometimes would launch into violent tirades against her relatives for the cruel neglect they showed her. On such occasions she would bewail her forlorn condition with tears and groans, and, for want of a better butt, load her faithful doctor with unmerited reproaches.

In 1837 she found herself deeply in debt. This is not surprising, when her profuse charities, the hand she had in all political disturbances, and her system of housing and feeding refugees, are considered.* Her principal creditor, a certain *Mâalem Homsy*, who wrung from her 25 per cent interest on his loans, becoming impatient for repayment, had his claim brought before the Home Government. Thereupon Lord Palmerston, then Secretary of State for Foreign Affairs, instructed the British Consul for Egypt and Syria to withhold the certificate necessary for the payment of her pension till she had come to some sort of settlement with the usurer *Homsy*. Lady Hester was duly apprised of this decision, which certainly seems unnecessarily harsh. It is needless to say that such treatment roused all the blood of the Pitts. Taking up her pen, she addressed her reigning Majesty thus :

* It should be noted that her brother James, who died in 1825, left her an annuity of £1500.

"I shall not allow the pension given by your royal grandfather to be stopped by force : but I shall resign it for the payment of my debts, and with it the name of English subject, and the slavery that is at present annexed thereto."

She at this time had a notion that she had been maliciously kept out of certain property left her by relations in Ireland ; but the notion proved in the end to be altogether groundless. She bore this and her other disappointments with apparent stoicism, and set about making the necessary reductions in her establishment. Her doctor was dismissed, as were also many of her servants. Her house, already out of repair, was allowed to fall to ruin. The rain came through the roof ; the ceiling of her bedroom had to be propped by beams. In this state of isolation and dilapidation she lived for several months. Her health had long been bad ; but her end, when it did come, came suddenly.

One summer's evening in 1839 Mr. Moore, the Consul at Beyrout, hearing that Lady Hester had been taken ill, rode over the mountains to inquire after her. He was accompanied by Mr. Thomson, an American missionary. Nobody met them as they dismounted at the gate. All was silence. They traversed deserted courts and passages till they reached the room where the mistress of the house lay cold and dead. Her servants had ransacked the premises and decamped, leaving the corpse alone. At midnight, by torchlight, the mortal remains of the self-exiled lady were buried in the garden which she had herself laid out with such care and taste.

King George III. once observed to William Pitt on the terrace at Windsor, "You have reason to be proud of your niece, who unites everything that is great in man and woman." It is hardly likely that those who glance at the story of Lady Hester Stanhope's life will form the same opinion of her. Many great qualities she certainly possessed ; but her inordinate arrogance and vanity outweighed them all.—*Temple Bar*.

SOME STRANGELY FULFILLED DREAMS.

BY RICHARD A. PROCTOR.

So far as can be judged by ordinary methods of interpretation, it would seem that in the days when the history of Joseph was written, and again in the time of Daniel, no doubt was entertained respecting the supernatural origin of all dreams. Joseph's brothers, according to the narrative, took it for granted that Joseph's dreams indicated something which was to happen in the future. Whether they questioned the validity of his own interpretation is not altogether clear. They hated him after his first dream, and envied him, we are told, after his second, which shows they feared he might be right in his interpretation; but, on the other hand, they conspired together to slay him, which suggests they entertained some doubts on the subject. In fact, we are expressly told that when they conspired against him they said, "Behold, this dreamer cometh; come now, therefore, and let us slay him," and so forth, "and we shall see what will become of his dreams." Jacob, moreover, though he had "observed" Joseph's "saying" about the dream (after rebuking him for telling the story), seems to have taken Joseph's death for granted: "Joseph is without doubt rent in pieces." Possibly in those days, even as now, dreams were noticed when they were fulfilled, and forgotten when, as it seemed, they remained unfulfilled.

In like manner, when the butler and baker of Pharaoh dreamed each man his dream in one night, they were sad (that is, serious) the morning after: for they could not understand what the dreams meant. But Joseph said, "Do not interpretations belong to God?" Doubtless this was the accepted belief in the days when the history of Joseph was written. It is singular that the butler, though he forgot Joseph till Pharaoh's dreams reminded him of his fellow-prisoner, seems to have associated the power of interpreting the two dreams with the power of bringing about the events supposed to be portended by the dreams. "It came to pass, as he interpreted to us, so it was;

me he restored unto mine office, him he hanged." It is just thus that, in our own time, persons who believe in the claims of fortune-tellers to predict the future commonly believe also that fortune-tellers can to some degree control the future also.

Pharaoh's dreams were rather more fortunate to Joseph than either his own or those of the chief butler and baker. (It is noteworthy how the dreams of the story run in pairs.) In fact, one might be led to surmise that he inherited something of the ingenuity shown by his father's mother—referring to an arrangement, a year or two before Joseph entered the world, in which his mother showed to no great advantage, according to modern ideas. Be this as it may, it was certainly a clever thought of Joseph to suggest that the unfavorable weather he had predicted might be provided against by appointing a man discreet and wise to look after the interests of Egypt. Whom was Pharaoh likely to appoint but the person who had predicted the seven bad harvests? Even so, in these our own times, another Joseph told the British Pharaoh who lately ruled over India that years of famine in India can be predicted, and their effects prevented by appointing a man discreet and wise to look after the interests of India. And it is curious enough that this modern Joseph seems to have turned his thoughts to his ancient namesake, putting forward the idea that the seven good years and the seven bad years were years of many sun-spots, followed by years of few sun-spots. Nay, so strangely do these coincidences sometimes run on all-fours that the younger Joseph has adopted the idea that the pyramids of Egypt (which were once thought to be Joseph's store-houses) were astronomical instruments. Now it is certain, though this he has not noticed, that before the upper half (in height) of the great pyramid was set on, the great ascending gallery might have been used all the year round for observing the sun at noon; and that by using a dark screen at its uppermost or

southern extremity, and admitting the sun's light only through a small opening in this curtain, a large and well-defined image of the sun could have been obtained without any telescope, an image showing any large spots which might be present on the sun's disc. It would be a pleasant theory (and all the better suited for association with the sun-spot-weather theory, in having no valid evidence in its favor) to suggest that Joseph really ascertained the approach of good and bad harvests by solar observation. His advice was that the fifth part of the land of Egypt should be taken up—that is, stored up—in the seven plenteous years; but the Astronomer-Royal for Scotland assures us that the numbers five and seven are symbolized repeatedly in the great pyramid. Could anything clearer be desired?

But although I have been allowing fancy to lead me far away from facts, I think it may safely be inferred from the story of Pharaoh's dreams that the prediction of good and bad harvests was one of the qualities which the Pharaohs chiefly valued in their wise men, whether magi or astrologers.

The story of Nebuchadnezzar's dream is still more singular. I suppose the usual service expected by the kings of Babylon from their soothsayers included the interpretation of all dreams which had left a strong impression on the king's mind—dreams like the night visions of Eliphaz the Temanite, bringing fear and trembling, making all the bones to shake. It does not seem to have entered into the ordinary course of their duties to tell the king first what he had dreamed (when he had forgotten), and afterward what the dream might signify. Indeed, though it is not a very uncommon occurrence to forget a dream, yet a dream which has been forgotten does not generally leave a very strong impression, and therefore would not require interpretation. It happened otherwise with Nebuchadnezzar. His spirit was troubled, and his sleep broke from him, because of his dream, but what he had dreamed he could not remember. His action hereupon was somewhat crazy; but we must remember there was madness in his blood. He told the Chaldeans that "if they would not make known to him his dream and the inter-

pretation thereof they should be cut in pieces, and their houses made a dunghill." This was precisely the way, one would imagine, to cause them to invent a dream for him (he could not have detected the truth very well), and to have devised a suitable interpretation, pleasing in the king's eyes—which to persons of their ingenuity should not have been very difficult.*

However, we must not further consider these more ancient dreams, but turn at once to the examination of some of those remarkable dreams of modern times which have been regarded as showing that dreams are really sent in some cases as forewarnings, or at any rate as foreshadowings of real events. I propose to consider these narratives with special reference to the theory that dreams which seem to be fulfilled are fulfilled only by accident: so many dreams occurring, and so many events, that it would in fact be stranger that no such fulfilments should be recognized than that some among them should seem exceedingly striking.

There is one dream story which can hardly be explained by the coincidence theory, if true in all its particulars. It is related by Dr. Abercrombie as deserving of belief, though I must confess that for my own part I cannot but think the actual facts must have undergone considerable modification before the story reached its present form. Certainly the case does not illustrate the occurrence of dreams as a warning, effective or otherwise according to circumstances, for the dream happened simultaneously with the event to which it was supposed to relate. The story runs as follows (Dr. Abercrombie gives the story in a somewhat, but not essentially, different form):

On the night of May 11, 1812, Mr. Williams, of Scorrior House, near Red-

* A great deal in the art of dream-interpretation for the rich and powerful must obviously have depended on ingenuity in making things pleasant. Thus, when an Eastern potentate dreamed that all his teeth fell out, and was told that he was to lose all his relatives, he slew the indiscreet interpreter; but when another and a cleverer interpreter told him the dream promised long life, and that he would survive all his relatives, he made the man who thus pleasantly interpreted the omen many rich and handsome presents.

ruth, in Cornwall, woke his wife, and in great agitation told her of a strange dream he had just had. He dreamed he was in the lobby of the House of Commons, and saw a man shoot with a pistol a gentleman who had just entered the lobby who was said to be the Chancellor. His wife told him not to trouble himself about the dream, but to go to sleep again. He followed her advice, but presently woke her again, saying he had dreamed the same dream. Yet a third time was the dream repeated, after which he was so disturbed that, despite his wife's entreaties that he would trouble himself no more about the House of Commons, but try to sleep quietly, he got up and dressed himself. This was between one and two o'clock in the morning. At breakfast Mr. Williams could talk of nothing but the dream; and early the same morning he went to Falmouth, where he told the dream to all of his acquaintance whom he met. Next day Mr. Tucker, of Trematon Castle, accompanied by his wife, a daughter of Mr. Williams, went to Scorial House on a visit. Mr. Williams told Mr. Tucker the circumstances of his dream. Mr. Tucker remarked that it could only be in a dream that the Chancellor would be found in the lobby of the House of Commons. Mr. Tucker asked what sort of man the Chancellor seemed to be, and Mr. Williams minutely described the man who was murdered in his dream. Mr. Tucker replied, "Your description is not at all that of the Chancellor, but is very exactly that of Mr. Perceval, the Chancellor of the Exchequer." He asked if Mr. Williams had ever seen Mr. Perceval, and Mr. Williams replied that he had never seen him or had any communication of any sort with him; and further, that he had never been in the House of Commons in his life. At this moment they heard the sound of a horse galloping to the door of the house; immediately after a son of Mr. Williams entered the room and said that he had galloped from Truro, having seen a gentleman there who had come by that evening's mail from town, and who had been in the lobby of the House of Commons on the evening of the 11th, when a man called Bellingham had shot Mr. Perceval. After the astonishment which this intelligence created

had a little subsided Mr. Williams described most minutely the appearance and dress of the man whom he had seen in his dream fire the pistol at the Chancellor, as also the appearance and dress of the Chancellor. About six weeks after Mr. Williams, having business in town, went in company with a friend to the House of Commons, where, as has been already observed, he had never been before. Immediately that he came to the steps of the entrance of the lobby he said, "This place is as distinctly within my recollection, in my dream, as any room in my own house," and he made the same observation when he entered the lobby. He then pointed out the exact spot where Bellingham stood when he fired, and also that which Mr. Perceval had reached when he was struck by the ball, where he fell. The dress both of Mr. Perceval and Bellingham agreed with the description given by Mr. Williams even to the most minute particulars.

So runs the story. Of course, like the "well-authenticated" ghost stories, this one is confirmed by a number of particulars which are open to no other disadvantage than that of depending, like the rest of the story, on the narrator himself. It would be utterly absurd to base any theory respecting dreams on a story of this sort. The fact that on the night in question Mr. Williams dreamed about a murder in the House of Commons depends on his own assertion and his wife's confirmation. The details of the dream, the description of Perceval and Bellingham, Mr. Williams's ignorance respecting Mr. Perceval's appearance and the arrangement of the rooms in the House of Commons—these and a number of other matters essential to the effect of the story, depend on "trustworthy witnesses," whose evidence has in point of fact never been taken. All these points are like the details which appear in the papers the first few days after the occurrence of some "tragic event." They may be true or not, but they are apt to undergo considerable alteration when the witnesses are actually examined.

If we accepted the story precisely as it stands, we should be led to some rather startling results. In the first place, the coincidences are too numer-

ous to be explained as merely accidental. Mr. Williams, or any other among the millions who slept and dreamed on the night of the murder, might be readily enough believed to have had a startling dream about the murder of some member of Parliament high in office. Nor could the triple repetition of such a dream be surprising; for a dream which has produced a great effect on the mind is apt to be repeated. But that the event itself of Perceval's murder should be represented precisely as it occurred to a man who did not know Perceval or Bellingham from Adam, involves a multiplicity of relations which could not conceivably be all fulfilled simultaneously. We should have to admit, if we accepted the story as it stands, that there was something, I will not say supernatural or preternatural, but outside the range of known natural laws, in the dreams of Mr. Williams of Scornior House.

Now the case does not fall under precisely the same category as those numerous stories told of the appearance of persons, at the moment of their death, to friends or relatives at a distance. In the first place, most of these stories are themselves open to grave doubt. The persons who relate them are by their own account of highly sensitive and readily excitable temperament, and we do not look for perfectly uncolored narratives from such persons. But even if we accept the general theory that under certain conditions the mind of a dying person may affect in some way the mind of a person at a distance who is in some way in sympathy with the moribund, we can hardly extend the theory to include strangers. It may not be utterly incredible, perhaps, that some physical mode of communication exists by which one brain may receive the same impressions which affect another—though I must confess I cannot see my own way to believe anything of the sort. But we can hardly imagine that the brain of a sleeping person in no way connected with a dying man could be affected by such brain-waves. Every story of the kind, truthful or otherwise, has described an impression produced on some dear friend or relative; so that we should be justified in thinking (if we believed these stories at all) that brain-

waves are especially intended for the benefit of close friends or near of kin. It would be a new and startling thing if any man might have a vision of any other person who chanced to be dying; and, considering that not a minute passes without several deaths, while there are some 1500 millions of living persons, scarcely a day might be expected to pass without some one or other of the multitudinous deaths of the day finding some one or other brain among the 1500 millions in the proper frame for receiving the visionary communication by the brain-wave method.

Nor is it easy to imagine a religiously supernatural interpretation of the story. The dream was certainly not sent as a warning, for when Williams dreamed his dream Perceval was either being murdered or was already dead. The event could produce no beneficial influence on mankind generally, or on the English people specially, or the Cornish folk still more specially. The number of persons who could be certain that Mr. Williams was telling the truth (always on our present assumption that this was the case) were very few—in fact, only Mr. and Mrs. Williams, Mr. Tucker, and perhaps one or two friends who remembered that the details of the murder were communicated before the news could have reached Mr. Williams. One does not readily see how Williams himself was to be beneficially influenced by his remarkable experience. Most of those who heard the story would sit in the seat of the scornful and receive no benefit, but harm. The idea generally entertained, and most probably by Williams as well as the rest, would be simply this: that if it was worth while to let a miraculous vision of Perceval's murder appear to any one, it would have been well to have let the vision appear before the event, and to some one not living quite so far from town. Not, indeed, that the warning might save Perceval; for in reality it is a bull of the broadest sort to imagine that a *true* vision of a murder can prevent the murder. But a warning dream might serve useful purpose without preventing the event it indicated. If a man dreamed that he was to die in a week, and believed the dream, he would have no hope from the advice of his doctor, or from

any other precautions he might make against death; yet he would usefully employ the week in arranging his affairs. But it could be of no earthly use to Perceval, or any one else, that a vision of his death should appear in triplicate to some one down in Cornwall on the very night when the tragedy occurred in London.

I imagine that the true explanation of the story is somewhat on this wise: Williams probably had three startling dreams about a murder; told them to his wife in the way related, and on the following morning to several friends. News presently came of the murder of Perceval on the night when Williams had had these dreams; and gradually he associated the events of his dreams with the circumstances of the murder. When six weeks later he visited the scene of the murder, he mistook his recollection of things told him about Perceval, the lobby of the House of Commons, etc., for the recollection of things seen in his dreams. The story actually related probably assumed form and substance after Williams's visit to London. In perfect good faith he, his wife, and his friends may have given to the story the form it finally assumed. Of course the explanation is rendered a little easier if we suppose Mr. Williams and his wife were not unwilling to color their story a little. If a phonograph could have received the first account of the dream as imparted to Mrs. Williams on the night of May 11, I fancy the instrument might have repeated a tale somewhat unlike that which adorns the "Royal Book of Dreams," and Mr. Abercrombie's treatise on the Intellectual Powers. But, without any intentional untruthfulness, a story of this kind is apt to undergo very noteworthy modifications.

Dr. Abercrombie himself vouches for the truth of the two following stories—that is to say, he vouches for his belief in both stories: "A Scotch clergyman who lived near Edinburgh dreamed one night, while on a visit in that town, that he saw a fire, and one of his children in the midst of it. On awaking he instantly got up and returned home with the greatest speed. He found his house on fire, and was just in time to assist one of his children who in the alarm had been left in a place of danger."

The second story runs as follows: Two sisters had been for some days attending a sick brother, and one of them had borrowed a watch from a friend, her own being under repair. The sisters were sleeping together in a room communicating with that of their brother, when the elder awoke in a state of great agitation and roused the other to tell her that she had had a frightful dream. "I dreamed," she said, "that Mary's watch stopped, and that when I told you of the circumstance you replied, 'Much worse than that has happened, for —'s breath has stopped also,'" naming their sick brother. The watch, however, was found to be going correctly, and the brother was sleeping quietly. The dream occurred the next night; and on the following morning, one of the sisters having occasion to seal a note, went to get the watch from a writing-desk in which she had deposited it, when she found it had stopped. She rushed into her brother's room in alarm, remembering the dream, and found that he had been suddenly seized with a fit of suffocation, and had expired. (Abercrombie, "Intellectual Powers," pp. 289, 302.)

With regard to the first of these stories, I would remark that we find in it what is not always to be found in stories of dream warnings, a reason and use in the dream, assuming always that the story is true and that the dream really was sent as a warning. It is possible, of course, that the story was embellished by the Scotch clergyman who related it to Abercrombie. If the story be true in all its details, it remains possible that the agreement between the dream and the event was a mere coincidence. On the first point I shall say only that some men, and even some clergymen, have been quite capable of improving a story of this sort, with the desire, perhaps, of impressing on their hearer the anxious care which Providence takes in their special behalf. On the second point, it should be always remembered that among the many millions of strange dreams which might be fulfilled, some few are certain to be fulfilled, and it is of these dreams that we hear, not of those, though they are millions of times more numerous, which are not fulfilled. If, however, we accept the story pre-

cisely as related, and believe that the fulfilment of the dream was not accidental, we have at least a reasonable case of dream warning. We cannot, indeed, perceive why in this case Providence should interfere when so many similar cases happen without interference of any sort. And to the logical mind the idea will certainly suggest itself that if special interpositions of Providence can occur in such cases, they might be expected to be greatly more numerous than they are. But considering the case apart from others, we cannot cavil at the action of Providence in this case. The danger, however, of approval in such cases will be manifest if we consider that by parity of reasoning we ought to be dissatisfied when lamentable events happen which dream warnings might have prevented.

With regard to the second of the above stories I venture to express entire want of faith. The action of the sister, who, finding the watch had stopped, rushed in alarm into her brother's room, showed that she was weak-minded and superstitious; and we cannot expect exact statements of facts from weak-minded and superstitious persons. If the story were accepted as related, the case would differ altogether from the former. We can understand that Providence might interfere to warn a father of his child's danger in time to save the child; but we cannot reasonably believe that a double dream should be specially sent to indicate that when a certain watch had stopped a certain man would be found dead. If the events happened as told, the coincidence was strange, but that is all. It seems to me altogether more probable, however, that the story was inexactlly related to Dr. Abercrombie.

I have said that cases in which dreams are not fulfilled are usually forgotten. Occasionally, however, such dreams are preserved on account of some peculiarity in the circumstances. The following case, related by Abercrombie, is almost as singular as if the dream warning had been fulfilled by the event. A young man who was at an academy a hundred miles from home dreamed that he went to his father's house in the night, tried the front door, but found it locked; got in by a back door, and, finding nobody out of bed, went directly to the bedroom

of his parents. He then said to his mother, whom he found awake, "Mother, I am going a long journey, and am come to bid you good-by." On this she answered, in much agitation, "Oh, dear son, thou art dead!" He instantly awoke, and thought no more of his dream until a few days after he received a letter from his father, inquiring very anxiously after his health, in consequence of a frightful dream his mother had had on the same night in which the dream now mentioned occurred to him. She dreamed that she heard some one attempt to open the front door, then go to the back door, and at last come into her bedroom. She then saw it was her son, who came to the side of her bed, and said, "Mother, I am going a long journey, and I am come to bid you good-by," on which she exclaimed, "Oh, dear son, thou art dead!" But nothing unusual happened to either of the parties.

This case, if correctly related by the young man, would afford some evidence in favor of the theory that mind can act on mind at a distance. But we have to trust wholly in the veracity of the unknown young man; and it is barely possible that after reading his mother's letter he invented the account of his own dream. Or the story may have been told years after the event, and the facts related may have differed very widely from what actually happened. We know that memory often plays strange tricks in such cases.

At any rate, there was in this case no forewarning of any event, unless we suppose that the dream was sent to mother and son simultaneously, to prevent the son from undertaking a long journey at that time—assuming further that, if he had undertaken such a journey, he would have died upon the way. But any one who could take this view of the matter would believe anything.

This unfulfilled dream, the circumstances of which, if accurately known, might probably be readily explained, reminds me of a dream or vision related by Dickens in a letter to Forster, and of the explanation which Dickens suggested in relation to it. The original narrative is so charming that I shall make no apology for quoting it without change or abridgment. "Let me tell you," he

wrote from Genoa on September 30, 1843, "of a curious dream I had last Monday night, and of the fragments of reality I can collect which helped to make it up. I have had a return of rheumatism in my back and knotted round my waist like a girdle of pain, and had lain awake nearly all that night under the infliction, when I fell asleep and dreamed this dream. Observe that throughout I was as real, animated, and full of passion as Macready (God bless him!) in the last scene of *Macbeth*. In an indistinct place, which was quite sublime in its indistinctness, I was visited by a spirit. I could not make out the face, nor do I recollect that I desired to do so. It wore a blue drapery, as the Madonna might in a picture by Raphael; and bore no resemblance to any one I have ever seen except in stature. I think (but I am not sure) that I recognized the voice. Any way, I knew it was poor Mary's spirit. I was not at all afraid, but in a great delight, so that I wept very much, and stretching out my arms to it called it 'dear.' At this I thought it recoiled; and I felt immediately that, not being of my gross nature, I ought not to have addressed it so familiarly. 'Forgive me!' I said, 'we poor living creatures are only able to express ourselves by looks and words. I have used the word most natural to our affections; and you know my heart.' It was so full of compassion and sorrow for me—which I knew spiritually, for, as I have said, I did not perceive its emotions by its face—that it cut me to the heart; and I said, sobbing, 'Oh! give me some token that you have really visited me!' 'Form a wish,' it said. I thought, reasoning with myself, if I form a selfish wish it will vanish, so I hastily discarded such hopes and anxieties of my own as came into my mind, and said, 'Mrs. Hogarth is surrounded with great distresses'—observe, I never thought of saying 'your mother,' as to a mortal creature—'will you extricate her?' 'Yes.' 'And her extrication is to be a certainty to me that this has really happened?' 'Yes.' 'But answer me one other question,' I said, in an agony of entreaty lest it should leave me: 'What is the true religion?' As it paused a moment without replying, I said 'Good God!' in such an agony of haste, lest it

should go away, 'you think, as I do, that the form of religion does not so greatly matter if we try to do good?—or,' I said, observing that it still hesitated, and was moved with the greatest compassion for me, 'perhaps the Roman Catholic is the best? perhaps it makes one think of God oftener, and believe in him more steadily?' 'For *you*,' said the spirit, full of such heavenly tenderness for me that I felt as if my heart would break—"for *you*, it is the best!" Then I awoke with the tears running down my face, and myself in exactly the condition of the dream. It was just dawn. I called up Kate, and repeated it three or four times over, that I might not unconsciously make it plainer or stranger afterward. It was exactly this, free from all hurry, nonsense, or confusion whatever. Now the strings I can gather up leading to this were three. The first you know forms the main subject of my former letter. The second was, that there is a great altar in our bedroom, at which some family who once inhabited this palace had mass performed in old time; and I had observed within myself, before going to bed, that there was a mark in the wall above the sanctuary where a religious picture used to be; and I had wondered within myself what the subject might have been, *and what the face was like*. Thirdly, I had been listening to the convent bells (which ring at intervals in the night), and so had thought, no doubt, of Roman Catholic services. And yet for all this, put the case of that wish being fulfilled by any agency in which I had no hand, and I wonder whether I should regard it as a dream, or an actual vision."

The promise of the dream-spirit was not fulfilled in this respect. If it had chanced that some agency other than Dickens's own had, at that time, relieved Mrs. Hogarth from her anxieties, we can hardly doubt that he would have regarded the vision as real. He was, indeed, rather prone to recognize something beyond the natural in events which, to say the least, admitted of a quite natural interpretation. The story of his dream, I may remark in passing, is interesting as showing how the thoughts of the dreamer's own mind are in a dream assigned to the visionary persons created also in reality out of the dream-

er's mind. The spirit in Dickens's dream expressed precisely his own views about religion, and hesitated precisely where (as he elsewhere tells us) he himself hesitated. But where, in his own mind, he thought only that the Roman Catholic religion might be the best for him, the vision said simply that it was so. Had the dream promise been fulfilled, Dickens would probably have followed the supposed teaching of the dream-spirit. Or even if no test had been suggested to his mind in the dream, and the spirit had seemed to speak only of religion, he would probably have concluded that for him the Roman Church was the best. He would have felt, as Eliphaz the Temanite did, that this thing was secretly brought to him. It is indeed singular how closely in some respects the dream of Eliphaz the Temanite resembled that which Charles Dickens the Englishman dreamed, three or four thousand years later. "In thoughts from the visions of the night," says Eliphaz, "when deep sleep falleth upon men. Fear came upon me, and trembling, which made all my bones to shake. Then a spirit passed before my face, the hair of my flesh stood up. *It stood still, but I could not discern the form thereof; an image was before mine eyes, there was silence, and I heard a voice, saying, Shall mortal man be more just than God? shall a man be more pure than his maker?*" Fear possessed Eliphaz, instead of the delight which filled the heart of Dickens in the supposed presence of the departed dear one. But, like Dickens, the Temanite could hear a voice only, not discerning the form of the vision; and again, to him as to Dickens, the supposed vision repeated only what was in the dreamer's own mind.

Twenty years later Dickens had a dream which was fulfilled, at least to his own satisfaction. "Here," he wrote on May 30, 1863, "is a curious case at first hand. On Thursday night last week, being at the office here," in London, "I dreamed that I saw a lady in a red shawl with her back toward me, whom I supposed to be E. On her turning round I found that I didn't know her, and she said, 'I am Miss Napier.' All the time I was dressing next morning I thought, 'What a pre-

posterous thing to have so very distinct a dream about nothing! And why Miss Napier? for I never heard of any Miss Napier.' That same Friday night I read. After the reading came into my retiring-room Mary Boyle and her brother, and *the* lady in the red shawl, whom they present as 'Miss Napier.' 'These are all the circumstances exactly told.' This was probably a case of unconscious cerebration. Dickens had no doubt really seen the lady, and been told that she was Miss Napier, when his attention was occupied with other matters. There would be nothing unusual in his dreaming about a person whom he had thus seen without noticing. Of course it was an odd coincidence that the lady of whom he had thus dreamed should be introduced to him soon after—possibly the very day after. But such coincidences are not infrequent. To suppose that Dickens had been specially warned in a dream about so unimportant a matter as his introduction to Miss Napier would be absurd; for, fulfilled or unfulfilled, the dream was, as Dickens himself described it, a very distinct dream about nothing.

Far different in this respect was the strange dream which President Lincoln had the night before he was shot. If the story was truly told by Mr. Stanton to Dickens, the case is one of the most curious on record. Dickens told it thus in a letter to John Forster: "On the afternoon of the day on which the President was shot there was a cabinet council, at which he presided. Mr. Stanton, being at the time commander-in-chief of the Northern troops that were concentrated about here, arrived rather late. Indeed, they were waiting for him, and on his entering the room the President broke off in something he was saying, and remarked, 'Let us proceed to business, gentlemen.' Mr. Stanton then noticed with surprise that the President sat with an air of dignity in his chair, instead of lolling about in the most ungainly attitudes, as his invariable custom was; and that instead of telling irrelevant and questionable stories, he was grave and calm, and quite a different man. Mr. Stanton, on leaving the council with the Attorney-General, said to him, 'That is the most satisfactory cabinet meeting I have attended for

many a long day. What an extraordinary change in Mr. Lincoln !' The Attorney-General replied, 'We all saw it before you came in. While we were waiting for you he said, with his chin down on his breast, "Gentlemen, something very extraordinary is going to happen, and that very soon."' To which the Attorney-General had observed, 'Something good, sir, I hope?' when the President answered very gravely, 'I don't know—I don't know. But it will happen, and shortly, too.' As they were all impressed by his manner, the Attorney-General took him up again. 'Have you received any information, sir, not yet disclosed to us?' 'No,' answered the President, 'but I have had a dream. And I have now had the same dream three times. Once on the night preceding the battle of Bull Run. Once on the night preceding such another' (naming a battle also not favorable to the North, His chin sank on his breast again, and he sat reflecting. 'Might one ask the nature of this dream, sir?' said the Attorney-General. 'Well,' replied the President, without lifting his head or changing his attitude, 'I am on a great broad rolling river—and I am in a boat—and I drift!—and I drift!—but this is not business'—suddenly raising his face and looking round the table as Mr. Stanton entered—'let us proceed to business, gentlemen.' Mr. Stanton and the Attorney-General said, as they walked on together, it would be curious to notice whether anything ensued on this, and they agreed to notice. He was shot that night." Here the dream itself was not remarkable; it was such a one as might readily be dreamed by a man from the Western States who had been so often on broad rolling rivers. Nor was its recurrence remarkable. The noteworthy point was the occurrence of this dream three several times, and (as may be presumed from the effect which the dream produced on its third recurrence) those three times only, on the night preceding a great misfortune for the cause of the North. However, there is nothing in the story which cannot be attributed to merely casual coincidence, though the coincidence was sufficiently curious. As three years had elapsed from the time of Lincoln's death when Stanton told Dickens the story, it is

possible that the account may have been incorrect in some details.

It is, indeed, in this way that probably most of the more wonderful dream stories are to be explained. The tricks displayed by the memory in such matters would be perfectly amazing if they were not so familiar. For instance, Dr. Carpenter states that a lady had frequently asserted that she had seen a table move at the command of a medium when no one was near it. At length some one had sufficient hardihood to challenge this assertion—made, it will be understood, in perfectly good faith; and to satisfy the doubter of its truth, the lady turned to a note-book in which she had described the circumstances of the event at the time of its occurrence. There she found it stated, not as her memory had falsely told her, that no one was near the table, but that the hands of six persons were touching it!

It is possible that in the following recent and certainly most remarkable case of a fulfilled dream the exact circumstances, had they been recorded, would have been found to be not precisely those which the narrator believed them to be.

In the *Daily Telegraph* some months ago, in an obituary notice of General Richard Taylor, son of a former President of the United States (General Zachary Taylor), and one of the Southern generals during the Civil War, the following curious narrative was related:

"On the morning of the day when the City and Suburban Handicap was won by Aldrich, a little-fancied outsider, it so chanced that General Taylor travelled down to Epsom in company with Lord Vivian, and heard from him that it was his intention to back Lord Rosebery's horse, because he had dreamed that he saw the primrose and rose-hoops borne to victory in the race which they were on their road to witness. Acting upon this hint, General Taylor took 1000 to 30 about Aldrich, and was not a little elated at the success of what he justly called 'a leap in the dark.' But for the accident which caused Lemnos, another much-backed candidate for the race, to fall at Tattenham Corner, there is little probability that the dream of Lord Vivian would have found the inter-

pretation upon which General Taylor counted."

The story probably came from one who had heard the actual circumstances as related by Lord Vivian himself at the time of their occurrence. The narrator's recollection of what he had heard, and Lord Vivian's recollection of the event itself, may both have been to some degree defective. That one or other was in fault is manifest when we compare with the above account Lord Vivian's own statement a day or two later. He wrote as follows to the editor of the *Daily Telegraph*:

"In your 'leader' on General Taylor, in this day's paper, you introduce an anecdote relative to a dream of mine. The facts are these: I did dream, on the morning of the race for the City and Suburban Handicap, that I had fallen asleep in the weighing-room of the stand at Epsom, prior to that race, and that after it had been run I was awakened by a gentleman—the owner of another in the race—who informed me that 'The Teacher' had won. Of this horse, so far as my recollections serve me, I had never before heard. On reaching Victoria Station, the first person I saw was the gentleman who had appeared to me in my dream, and I mentioned it to him, observing that I could not find any horse so named in the race. He replied, 'There is a horse now called Aldrich which was previously called "The Teacher."' The dream so vividly impressed me that I declared my intention of backing Aldrich for £100, and was in course of doing this when I was questioned by his owner as to 'why I backed his horse.' I replied, 'Because I had dreamed he had won the race.' To this I was answered, 'As against your dream, I will tell you this fact: I tried the horse last week with a hurdle-jumper, and he was beaten a distance' (I afterward learned that the trial horse was Lowlander!). I thanked my informant, and discontinued backing Aldrich. General Taylor, who had overheard what passed, asked me if I did not intend backing the horse again for myself, to win him £1000 by him. This I did by taking for him 1000 to 30 about Aldrich. Such is the true account of my dream, and of General Taylor's profit from it."

The difference between this account

and that in the *Daily Telegraph* may not seem intrinsically important; but it is noteworthy as indicating the probability that in other details there may have been changes (unintentional, of course). The *Spectator* made the following remarks (very much to the point, I think) on this case:

"Lord Vivian's letter adds very much to the inexplicable element in the story. In the shape in which the *Daily Telegraph* originally put it, there was nothing at all in the dream but what it was quite reasonable for any one to explain as a somewhat remarkable coincidence between a dream of the event and the event as it actually resulted, the bet offered being, however, a practical proof that the dream, as alleged, had occurred, and had greatly influenced the mind of the dreamer and one of his companions before the prediction was fulfilled. But Lord Vivian's testimony that, instead of dreaming of Aldrich as the winner, the friend seen in his dream had mentioned a horse whose name was utterly unknown to him—at least unknown to him in his waking state—and of whose running he had no knowledge, and that the name so dreamed of proved to have been the name of a former horse actually in the race, supplies a very excellent reason why he should have been sufficiently struck by his dream to intend acting upon it, until he was discouraged by hearing of the horse's defeat by a hurdle-jumper, and why General Richard Taylor insisted that if Lord Vivian did not bet on Aldrich on his own account he should still bet on him on behalf of General Richard Taylor. In truth, Lord Vivian has supplied the only really striking feature in the story. Everybody would be disposed to explain it at once as a case of coincidence, but for the bit of fresh knowledge apparently supplied in the dream, and verified in fact before the chief prediction of the dream had been tested. Now, here we have exceedingly good evidence, not only of a successful prediction of an unlikely event—for that is nothing, and occurs every day—but of its prediction after a fashion which appears to have been beyond the scope of the dreamer's power. That he should have dreamed of the winning of the race by a horse of name quite unknown to him would, of course, have been

nothing. But that after such a dream a friend should have been able to point out a horse actually running in the race to which the unknown name had actually belonged, was clearly a practical verification of the informing character of the dream, and makes the coincidence—if coincidence it were—of the complete fulfilment of all the important predictions of the dream, one far more extraordinary than the fulfilment of any simple anticipation. Is there any explanation possible of the really curious part of the story, the discernment that a horse which had been called 'The Teacher' was to run in the race, although Lord Vivian could not recall ever having heard of such a horse without recourse to hypothesis of an unverified and, as yet, purely conjectural kind?"

The writer of the article in the *Spectator* proceeds to offer such an explanation: "Supposing Lord Vivian to have really had something to do with the horse called 'The Teacher,' and to have been told in a moment of almost complete inattention that it had been rechristened 'Aldrich,' it is barely possible—we do not say it is at all likely—that this association may have revived in sleep, without presenting any of the appearance of a memory. In his waking hours his mind may have dwelt on Lord Rosebery as a coming power on the Turf, and that may have turned his attention to the name of Lord Rosebery's horse. This name may, in sleep, have revived the half-obliterated association of old days, and the name of 'The Teacher' may have come back. And then the imposing character of this name may have suggested a dream in which the dreamer was solemnly told that 'The Teacher' had won the race. Such, we say, is a possible, though not at all probable, explanation of this strange dream, supposing it related with perfect accuracy. Certain it is that our memories are often so much transformed in our sleeping state that they hardly comport themselves as memories

at all, but rather as brand-new experiences, when they are really due to the laws of association, though of association so completely stripped of all its most familiar elements as to look stranger than a totally new impression."

Of course this explanation, even if accepted, gives no account of the fulfilment of the dream despite the heavy antecedent probability against Aldrich winning. Unless we set this down to mere coincidence, we should either have to believe that Lord Vivian was specially favored with a vision by which—if only he were clever enough to avail himself of the information—he might win much money on a horse-race (a somewhat questionable proceeding if he were assured that the information were trustworthy, and a somewhat foolish proceeding if he were not), or else we must suppose that in his sleep information which he had once had (but had forgotten) about the horse's qualities showed him what in his waking hours he could not have ascertained, that the horse really had a better chance than bettors imagined. Possibly persons who bet on horse races give their minds (or what they regard as such) so entirely to that absorbing though not very ennobling pursuit that they often dream about horses winning races. As their name is legion, and their dreams would therefore be multitudinous, the wonder rather is, perhaps, that we do not oftener hear of seemingly remarkable fulfilments of such dreams than that one or two cases of the kind should be recorded. Certainly there is little in this case to encourage special faith in dreams about racing. However ready the believer in dreams may be to regard dream warnings as supernatural, he can hardly regard information about horse races as communicated from above. If they came from the contrary direction, it would be unsafe to accept them with blind confidence, remembering to whom the parentage of falsehood has been, on excellent authority, attributed.—*Belgravia Magazine*.

THE UNITY OF NATURE.

BY THE DUKE OF ARGYLL.

III.

ANIMAL INSTINCT IN ITS RELATION TO
THE MIND OF MAN.

THE Dipper or Water-ousel (*Cinclus aquaticus*) is well known to ornithologists as one of the most curious and interesting of British birds. Its special habitat is clear mountain streams. These it never leaves except to visit the lakes into which or from which they flow. Without the assistance of webbed feet, it has extraordinary powers of swimming and of diving—moving about upon and under the surface with more than the ease and dexterity of a fish—hunting along the bottom as if it had no power to float—floating on the top as if it had no power to sink—now diving where the stream is smooth, now where it is quick and broken, and suddenly reappearing perched on the summit of some projecting point. Its plumage is in perfect harmony with its haunts—dark, with a pure white breast, which looks exactly like one of the flashes of light so numerous in rapid streams, or one of the little balls of foam which loiter among the stones. Its very song is set to the music of rapid waters. From the top of a bank one can often get quite close to it when it is singing, and the harmony of its notes with the tinkling of the stream is really curious. It sings, too, when all other birds but the robin is silent—when the stones on which it sits are circled and rimmed with ice. No bird, perhaps, is more specially adapted to a very special home and very peculiar habits of life. The same species, or other forms so closely similar as to seem mere varieties, are found in almost every country of the world where there are mountain streams. And yet it is a species having no very near affinity with any other bird, and it constitutes by itself a separate genus. It is, therefore, a species of great interest to the naturalist, and raises some of the most perplexing questions connected with the "origin of species."

In 1874 a pair of these birds built

their nest at Inverary in a hole in the wall of a small tunnel constructed to carry a rivulet under the walks of a pleasure ground. The season was one of great drought, and the rivulet, during the whole time of incubation and of the growth of the young in the nest, was nearly entirely dry. One of the nestlings, when almost fully fledged, was taken out by the hand for examination, an operation which so alarmed the others that they darted out of the hole and ran and fluttered down the tunnel toward its mouth. At that point a considerable pool of water had survived the drought, and lay in the paths of the fugitives. They did not at all appear to seek it; on the contrary, their flight seemed to be as aimless as that of any other fledgling would have been in the same predicament. But one of them stumbled into the pool. The effect was most curious. When the young bird touched the water there was a moment of pause, as if the creature were surprised. Then instantly there seemed to wake within it the sense of its hereditary powers. Down it dived with all the facility of its parents, and the action of its wings under the water was a beautiful exhibition of the double adaptation to progression in two very different elements, which is peculiar to the wings of most of the diving birds. The young Dipper was immediately lost to sight among some weeds, and so long did it remain under water that I feared it must be drowned. But in due time it reappeared all right, and being recaptured, was replaced in the nest.

Later in the season, on a secluded lake in one of the Hebrides, I observed a Dun-diver, or female of the Red-breasted Merganser (*Mergus serrator*), with her brood of young ducklings. On giving chase in the boat, we soon found that the young, although not above a fortnight old, had such extraordinary powers of swimming and diving that it was almost impossible to capture them. The distance they went under water, and the unexpected places in which they emerged, baffled all our efforts for a con-

siderable time. At last one of the brood made for the shore, with the object of hiding among the grass and heather which fringed the margin of the lake. We pursued it as closely as we could, but when the little bird gained the shore our boat was still about twenty yards off. Long drought had left a broad margin of small flat stones and mud between the water and the usual bank. I saw the little bird run up about a couple of yards from the water, and then suddenly disappear. Knowing what was likely to be enacted, I kept my eye fixed on the spot; and when the boat was run upon the beach I proceeded to find and pick up the chick. But on reaching the place of disappearance no sign of the young Merganser was to be seen. The closest scrutiny, with the certain knowledge that it was there, failed to enable me to detect it. Proceeding cautiously forward, I soon became convinced that I had already overshot the mark; and, on turning round, it was only to see the bird rise like an apparition from the stones, and dashing past the stranded boat, regain the lake, where, having now recovered its wind, it instantly dived, and disappeared. The tactical skill of the whole of this manœuvre, and the success with which it was executed, were greeted with loud cheers from the whole party; and our admiration was not diminished when we remembered that some two weeks before that time the little performer had been coiled up inside the shell of an egg, and that about a month before it was apparently nothing but a mass of albumen and of fatty oils.

The third case of animal instinct which I shall here mention was of a different but of an equally common kind. In walking along the side of a river with overhanging banks, I came suddenly on a common Wild Duck (*Anas Boschas*), whose young were just out. Springing from under the bank, she fluttered out into the stream with loud cries and with all the struggles to escape of a helplessly wounded bird. To simulate the effects of suffering from disease, or from strong emotion, or from wounds upon the human frame, is a common necessity of the actor's art, and it is not often really well done. The tricks of the theatre are seldom natural, and it is not

without reason that "theatrical" has become a proverbial expression for false and artificial representations of the realities of life. It was, therefore, with no small interest that on this, as on many other occasions, I watched the perfection of an art which Mrs. Siddons might have envied. The labored and half-convulsive flapping of the wings, the wriggling of the body, the straining of the neck, and the whole expression of painful and abortive effort, were really admirable. When her struggles had carried her a considerable distance, and she saw that they produced no effect in tempting us to follow, she made resounding flaps upon the surface of the water, to secure that attention to herself which it was the great object of the manœuvre to attract. Then rising suddenly in the air, she made a great circle round us, and returning to the spot, renewed her endeavors as before. It was not, however, necessary; for the separate instinct of the young in successful hiding effectually baffled all my attempts to discover them.

Let us now look at the questions which these several exhibitions of animal instinct cannot fail to suggest; and first let us take the case of the young Dipper. There was no possibility of imitation here. The rivulet beneath the nest, even if it had been visible to the nestlings, had been dry ever since they had been hatched. The river into which it ordinarily flowed was out of sight. The young Dippers never could have seen the parent birds either swimming or diving. This, therefore, is one of the thousand cases which have driven the "experience" school of philosophy to take up new ground. The young Dipper here cannot possibly have had any experience, either through the process of incipient effort, or through the process of sight and imitation. Nature is full of similar cases. In face of them it is now no longer denied that in all such cases "innate ideas" do exist, and that "pre-established harmonies" do prevail in Nature. These old doctrines, so long ridiculed and denied, have come to be admitted, and the new philosophy is satisfied with attempts to explain how these "ideas" came to be innate, and how these harmonies came to be pre-established. The explanation is, that

though the efficiency of experience as the cause or source of instinct must be given up as regards the individual, we may keep it as regards the race to which the individual belongs. The powers of swimming and diving, and the impulse to use them for their appropriate purpose, were indeed innate in the little Dipper of 1874.* But then they were not innate in its remote progenitors. They were acquired by those progenitors through gradual effort—the trying leading to success, and the success again leading to more trying—both together leading first to special faculty, then to confirmed habit, and then, by hereditary transmission, to instinct, “organized in the race.” Well, but even if this be true, was not the disposition of the progenitors to make the first efforts in the direction of swimming and diving, and were not the organs which enabled them to do so as purely innate as the perfected instinct and the perfected organs of the Dipper of to-day? Did there ever exist in any former period of the world what, so far as I know, does certainly not exist now—any animal with dispositions to enter on a new career, thought of and imagined for the first time by itself, unconnected with any organs already fitted for and appropriate to the purpose? Even the highest acquirements of the dog, under highly artificial conditions of existence, and under the guidance of persistent “interferences with Nature,” are nothing but the special education of original instincts. In the almost human caution of the old and well-trained pointer when approaching game, we see simply a development of the habit of all predatory animals to pause when close upon an unseen prey—a pause requisite to verify the intimations of smell by the sense of sight, and also for preparing the final spring. It is true that man “selects,” but he can only select out of what is already there. The training and direction which he gives to the promptings of instinct may properly be described as the result of experience in the animal under instruction; and it is undoubtedly true that, within certain limits (which, however, are, after all, very narrow) these results do tend to become hereditary. But there is nothing really analogous in Nature to the artificial pro-

cesses of training to which man subjects the animals which are capable of domestication. Or if there be anything analogous—if animals by themselves can school themselves by gradual effort into the development of new powers—if the habits and powers which are now purely innate and instinctive were once less innate and more deliberate—then it will follow that the earlier faculties of animals have been the higher, and that the later faculties are the lower, in the scale of intelligence. This is hardly consistent with the idea of evolution, which is founded on the conception of an unfolding or development from the lower to the higher, from the simple to the complex, from the instinctive to the rational. My own belief is, that whatever of truth there is in the doctrine of evolution is to be found in this conception, which, so far as we can see, does seem to be embodied in the history of organic life. I can therefore see no light in this new explanation to account for the existence of instincts which are certainly antecedent to all individual experience—the explanation, namely, that they are due to the experience of progenitors “organized in the race.” It involves assumptions contrary to the analogies of Nature, and at variance with the fundamental facts, which are the best, and indeed the only, basis of the theory of evolution. There is no probability—there is hardly any plausibility—in the supposition that experience has had, in past times, some connection with instinct which it has ceased to have in the present day. The uniformity of Nature has, indeed, often been asserted in a sense in which it is not true, and used in support of arguments which it will not sustain. All things have certainly not continued as they are since the beginning. There was a time when animal life, and with it animal instincts, began to be. But we have no reason whatever to suppose that the nature of instinct then or since has ever been different from its nature now. On the contrary, as we have in existing Nature examples of it in infinite variety, from the very lowest to the very highest forms of organization, and as the same phenomena are everywhere repeated, we have the best reason to conclude that, in the past, animal instinct has ever

been what we now see it to be—congenital, innate, and wholly independent of experience.

And, indeed, when we come to think about it, we shall find that the theory of experience assumes the pre-existence of the very powers for which it professes to account. The very lowest of the faculties by which experience is acquired is the faculty of imitation. But the desire to imitate must be as instinctive as the organs are hereditary by which imitation is effected. Then follow in their order all the higher faculties by which the lessons of experience are put together—so that what has been in the past is made the basis of anticipation as to what will be in the future. This is the essential process by which experience is acquired, and every step in that process assumes the pre-existence of mental tendencies and of mental powers which are purely instinctive and innate. To account for instinct by experience is nothing but an Irish bull. It denies the existence of things which are nevertheless assumed in the very terms of the denial; it elevates into a cause that which must in its nature be a consequence, and a consequence, too, of the very cause which is denied. Congenital instincts, and hereditary powers, and pre-established harmonies are the origin of all experience, and without them no one step in experience could ever be gained. The questions raised when a young Dipper, which had never before even seen water, dives and swims with perfect ease, are questions which the theory of organized experience does not even tend to solve; on the contrary, it is a theory which leaves those questions precisely where they were, except in so far as it may tend to obscure them by obvious confusions of thought.

Passing now from explanations which explain nothing, is there any light in the theory that animals are "automata?" Was my little Dipper a diving machine? It seems to me that there is at least a glimmer shining through this idea—a glimmer as of a real light struggling through a thick fog. The fog arises out of the mists of language—the confounding and confusion of meanings literal with meanings metaphorical—the mistaking of partial for complete analogies. "Machine" is the word by which we

designate those combinations of mechanical force which are contrived and put together by man to do certain things. One essential characteristic of them is that they belong to the world of the not-living; they are destitute of that which we know as life, and of all the attributes by which it is distinguished. Machines have no sensibility. When we say of anything that it has been done by a machine, we mean that it has been done by something which is not alive. In this literal signification it is therefore pure nonsense to say that anything living is a machine. It is simply a misapplication of language, to the extent of calling one thing by the name of another thing, and that other so different as to be its opposite or contradictory. There can be no reasoning, no clearing up of truth, unless we keep definite words for definite ideas. Or if the idea to which a given word has been appropriated be a complex idea, and we desire to deal with one element only of the meaning, separated from the rest, then, indeed, we may continue to use the word for this selected portion of its meaning, provided always that we bear in mind what it is that we are doing. This may be, and often is, a necessary operation, for language is not rich enough to furnish separate words for all the complex elements which enter into ideas apparently very simple; and so of this word, machine, there is an element in its meaning which is always very important, which in common language is often predominant, and which we may legitimately choose to make exclusive of every other. This essential element in our idea of a machine is that its powers, whatever they may be, are derived, and not original. There may be great knowledge in the work done by a machine, but the knowledge is not in it. There may be great skill, but the skill is not in it; great foresight, but the foresight is not in it; in short, great exhibition of all the powers of mind, but the mind is not in the machine itself. Whatever it does is done in virtue of its construction, which construction is due to a mind which has designed it for the exhibition of certain powers and the performance of certain functions. These may be very simple, or they may be very complicated, but whether simple or com-

plicated, the whole play of its operations is limited and measured by the intentions of its constructor. If that constructor be himself limited, either in opportunity, or knowledge, or in power, there will be a corresponding limitation in the things which he invents and makes. Accordingly, in regard to man, he cannot make a machine which has any of the gifts and the powers of life. He can construct nothing which has sensibility or consciousness, or any other of even the lowest attributes of living creatures. And this absolute destitution of even apparent originality in a machine—this entire absence of any share of consciousness, or of sensibility, or of will—is one part of our very conception of it. But that other part of our conception of a machine, which consists in its relation to a contriver and constructor, is equally essential, and may, if we choose, be separated from the rest, and may be taken as representative of the whole. If, then, there be any agency in Nature, or outside of it, which can contrive and build up structures endowed with the gifts of life, structures which shall not only digest, but which shall also feel and see, which shall be sensible of enjoyment from things conducive to their welfare, and of alarm on account of things which are dangerous to the same—then such structures have the same relation to that agency which machines have to man, and in this aspect it may be a legitimate figure of speech to call them living machines. What these machines do is different in kind from the things which human machines do; but both are alike in this—that whatever they do is done in virtue of their construction, and of the powers which have been given to them by the mind which made them.

Applying now this idea of a machine to the phenomena exhibited by the young Dipper, its complete applicability cannot be denied. In the first place, the young Dipper had a physical structure adapted to diving. Its feathers were of a texture to throw off water, and the shower of pearly drops which ran off it, when it emerged from its first plunge, showed in a moment how different it was from other fledglings in its imperviousness to wet. Water appeared to be

its "native element" precisely in the same sense in which it is said to be the native element of a ship which has been built high in air, and of the not very watery materials of wood and iron. Water, which it had never seen before, seemed to be the native element of the little bird in this sense, that it was so constructed as to be and to feel at home in it at once. Its "lines" had been laid down for progression both in air and water. It was launched with a motive-power complete within itself, and with promptings sufficient for the driving of its own machinery. For the physical adaptation was obviously united with mental powers and qualities which partook of the same preadjusted harmony. These were as congenial as the texture of its feathers or the structure of its wing. Its terror arose on seeing the proper objects of fear, although they had never been seen before, and no experience of injury had arisen. This terror prompted it to the proper methods of escape, and the knowledge how to use its faculties for this object was as intuitive as the apparatus for effecting it was hereditary. In this sense the Dipper was a living, breathing, seeing, fearing, and diving machine—ready made for all these purposes from the nest—as some other birds are even from their first exclusion from the egg.

The case of the young Merganser is still more curious and instructive with reference to the same questions. The young of all the *Anatide* are born, like the gallinaceous birds, not naked or blind, as most others are, but completely equipped with a feathery down, and able to swim or dive as soon as they see the light. Moreover, the young of the Merganser have the benefit of seeing from the first the parent bird performing these operations, so that imitation may have some part in developing the perfection with which they are executed by the young. But the particular manœuvre resorted to by the young bird which baffled our pursuit was a manœuvre in which it could have had no instruction from example—the manœuvre, namely, which consists in hiding not under any cover, but by remaining perfectly motionless on the ground. This is a method of escape which cannot be resorted to successfully except by birds whose color-

ing is adapted to the purpose by a close assimilation with the coloring of surrounding objects. The old bird would not have been concealed on the same ground, and would never itself resort to the same method of escape. The young, therefore, cannot have been instructed in it by the method of example. But the small size of the chick, together with its obscure and curiously mottled coloring, are specially adapted to this mode of concealment. The young of all birds which breed upon the ground are provided with a garment in such perfect harmony with surrounding effects of light as to render this manœuvre easy. It depends, however, wholly for its success upon absolute stillness. The slightest motion at once attracts the eye of any enemy which is searching for the young. And this absolute stillness must be preserved amid all the emotions of fear and terror which the close approach of the object of alarm must, and obviously does, inspire. Whence comes this splendid, even if it be unconscious, faith in the sufficiency of a defence which it must require such nerve and strength of will to practise? No movement, not even the slightest, though the enemy should seem about to trample on it; such is the terrible requirement of Nature—and by the child of Nature implicitly obeyed! Here, again, beyond all question, we have an instinct as much born with the creature as the harmonious tinting of its plumage—the external furnishing being inseparably united with the internal furnishing of mind which enables the little creature in very truth to “walk by faith and not by sight.” Is this automatonism? Is this machinery? Yes, undoubtedly in the sense explained before—that the instinct has been given to the bird in precisely the same sense in which its structure has been given to it—so that anterior to all experience, and without the aid of instruction or of example, it is inspired to act in this manner on the appropriate occasion arising.

Then, in the case of the Wild Duck, we rise to a yet higher form of instinct, and to more complicated adaptations of congenital powers to the contingencies of the external world. It is not really conceivable that Wild Ducks have commonly many opportunities of studying

each other's action when rendered helpless by wounds. Nor is it conceivable that such study can have been deliberately made even when opportunities do occur. When one out of a flock is wounded all the others make haste to escape, and it is certain that this trick of imitated helplessness is practised by individual birds which can never have had any such opportunities at all. Moreover, there is one very remarkable circumstance connected with this instinct, which marks how much of knowledge and of reasoning is implicitly contained within it. As against man the manœuvre is not only useless, but it is injurious. When a man sees a bird resorting to this imitation, he may be deceived for a moment, as I have myself been; but his knowledge and experience and his reasoning faculty soon tell him from a combination of circumstances that it is merely the usual deception. To man, therefore, it has the opposite effect of revealing the proximity of the young brood, which would not otherwise be known. I have repeatedly been led by it to the discovery of the chicks. Now, the most curious fact of all is that this distinction between man and other predacious animals is recognized and reflected in the instinct of birds. The manœuvre of counterfeiting helplessness is very rarely resorted to except when a dog is present. Dogs are almost uniformly deceived by it. They never can resist the temptation presented by a bird which flutters apparently helpless just in front of their nose. It is, therefore, almost always successful in drawing them off, and so rescuing the young from danger. But it is the sense of smell, not the sense of sight, which makes dogs so specially dangerous. The instinct which has been given to birds seems to cover and include the knowledge that as the sense of smell does not exist to the like effect in man, the mere concealment of the young from sight is ordinarily, as regards him, sufficient for their protection; and yet I have on one occasion seen the trick resorted to when man only was the source of danger, and this by a species of bird which does not habitually practise it, and which can have had neither individual nor ancestral experience. This was the case of a Blackcap (*Sylvia atricapilla*), which fell to the ground, as

if wounded, from a bush, in order to distract attention from its nest.

If now we examine, in the light of our own reason, all the elements of knowledge or of intellectual perception upon which the instinct of the Wild Duck is founded, and all of which, as existing somewhere, it undoubtedly reflects, we shall soon see how various and extensive these elements of knowledge are. First, there is the knowledge that the cause of the alarm is a carnivorous animal. On this fundamental point no creature is ever deceived. The youngest chick knows a hawk, and the dreadful form fills it with instant terror. Next, there is the knowledge that dogs and other carnivorous quadrupeds have the sense of smell, as an additional element of danger to the creatures on which they prey. Next, there is the knowledge that the dog, not being itself a flying animal, has sense enough not to attempt the pursuit of prey which can avail itself of this sure and easy method of escape. Next, there is the conclusion from all this knowledge that if the dog is to be induced to chase, it must be led to suppose that the power of flight has been somehow lost. And then there is the further conclusion that this can only be done by such an accurate imitation of a disabled bird as shall deceive the enemy into a belief in the possibility of capture. And, lastly, there are all the powers of memory and the qualities of imagination which enable good acting to be performed. All this reasoning and all this knowledge is certainly involved in the action of the bird-mother just as certainly as reasoning and knowledge of a much profounder kind is involved in the structure or adjustment of the organic machinery by which and through which the action is itself performed.

There is unquestionably a sense, and a very important sense, in which all these wonderful operations of instinct are "automatic." The intimate knowledge of physical and of physiological laws—the knowledge even of the mental qualities and dispositions of other animals—and the processes of reasoning by which advantage is taken of these—this knowledge and this reasoning cannot, without manifest absurdity, be attributed to the birds themselves. This is admitted at least as regards the birds of

the present day. But surely the absurdity is quite as great if this knowledge and reasoning, or any part of it, be attributed to birds of a former generation. In the past history of the species there may have been change—there may have been development. But there is not the smallest reason to believe that the progenitors of any bird or of any beast, however different in form, have ever founded on deliberate effort the instincts of their descendants. All the knowledge and all the resource of mind which is involved in these instincts is a reflection of some agency which is outside the creatures which exhibit them. In this respect it may be said with truth that they are machines. But then they are machines with this peculiarity, that they not only reflect, but also in various measures and degrees partake of, the attributes of mind. It is always by some one or other of these attributes that they are guided—by fear, or by desire, or by affection, or by mental impulses which go straight to the results of reasoning without its processes. That all these mental attributes are connected with a physical organism which is constructed on mechanical principles, is not a matter of speculation. It is an obvious and acknowledged fact. The question is not whether, in this sense, animals are machines, but whether the work which has been assigned to them does or does not partake in various measures and degrees of the various qualities which we recognize in ourselves as the qualities of sensation, of consciousness, and of will.

On this matter it seems clear to me that Professor Huxley has seriously misconceived the doctrine of Descartes. It is true that he quotes a passage as representing the view of "orthodox Cartesians," in which it is asserted that animals "eat without pleasure and cry without pain," and that they "desire" nothing as well as "know" nothing. But this passage is quoted, not from Descartes, but from Malebranche. Malebranche was a great man; but on this subject he was the disciple and not the master; and it seems almost a law that no utterance of original genius can long escape the fate of being travestied and turned to nonsense by those who take it up at second-hand. Descartes' letter to Moore of the 5th of February, 1649

proves conclusively that he fully recognized in the lower animals the existence of all the affections of mind except "Thought" (*la Pensée*), or Reason properly so called. He ascribes to them the mental emotions of fear, of anger, and of desire, as well as all the sensations of pleasure and of pain. What he means by Thought is clearly indicated in the passage in which he points to Language as the peculiar product and the sole index of Thought—Language, of course, taken in its broadest sense, signifying any system of signs by which general or abstract ideas are expressed and communicated. This, as Descartes truly says, is never wanting even in the lowest of men, and is never present in the highest of the brutes. But he distinctly says that the lower animals, having the same organs of sight, of hearing, of taste, etc., with ourselves, have also the same sensations, as well as the same affections of anger, of fear, and of desire—affections which, being mental, he ascribes to a lower kind or class of Soul, an "ame corporelle." Descartes, therefore, was not guilty of confounding the two elements of meaning which are involved in the word machine—that element which attaches to all machines made by man as consisting of dead non-sentient matter—and that other element of meaning which may be legitimately attached to structures which have been made, not to simulate, but really to possess all the essential properties of life. "Il faut pourtant remarquer," says Descartes emphatically; "que je parle de la pensée, non de la vie, ou de sentiment."^{*}

The experiments quoted by Professor Huxley and by other physiologists on the phenomena of vivisection cannot alter or modify the general conclusions which have long been reached on the unquestionable connection between all the functions of life and the mechanism of the body. The question remains whether the ascertainment of this connection in its details can alter our conceptions of what life and sensation are. No light is thrown on this question by cutting out from an organism certain parts of the machinery which are known to be the seat of consciousness, and then

finding that the animal is still capable of certain movements which are usually indicative of sensation and of purpose. Surely the reasoning is bad which argues that because a given movement goes on after the animal has been mutilated, this movement must therefore continue to possess all the same elements of character which accompanied it when the animal was complete. The character of purpose in one sense or another belongs to all organic movements whatever—to those which are independent of conscious sensation, or of the will, as well as to those which are voluntary and intentional. The only difference between the two classes of movement is, that in the case of one of them the purpose is wholly outside the animal, and that in the case of the other class of movement the animal has faculties which make it, however indirectly, a conscious participant or agent in the purpose, or in some part of the purpose, to be subserved. The action of the heart in animals is as certainly "purposive" in its character as the act of eating and deglutition. In the one the animal is wholly passive—has no sensation, no consciousness, however dim. In the other movement the animal is an active agent, is impelled to it by desires which are mental affections, and receives from it the appropriate pleasure which belongs to consciousness and sensation. These powers themselves, however, depend, each of them, on certain bits and parts of the animal mechanism; and if these parts can be separately injured or destroyed, it is intelligible enough that consciousness and sensation may be severed for a time from the movements which they ordinarily accompany and direct. The success of such an experiment may teach us much on the details of a general truth which has long been known—that conscious sensation is, so far as our experience goes, inseparably dependent upon the mechanism of an organic structure. But it cannot in the slightest degree change or modify our conception of what conscious sensation in itself is. It is mechanical exactly in the same sense in which we have long known it to be so—that is to say, it is the result of what working in and through a structure which has been made to exhibit and embody its peculiar gifts and powers.

* "Œuvres de Descartes," Cousin, vol. x. p. 205 *et seq.*

Considering now that the body of man is one in structure with the body of all vertebrate animals—considering that, as we rise from the lowest of these to him who is the highest, we see this same structure elaborated into closer and closer likeness, until every part corresponds, bone to bone, tissue to tissue, organ to organ—I cannot doubt that man is a machine, precisely in the same sense in which animals are machines. If it is no contradiction in terms to speak of a machine which has been made to feel and to see, and to hear and to desire, neither need there be any contradiction in terms in speaking of a machine which has been made to think, and to reflect, and to reason. These are, indeed, powers so much higher than the others that they may be considered as different in kind. But this difference, however great it may be, whether we look at it in its practical results, or as a question of classification, is certainly not a difference which throws any doubt upon the fact that all these higher powers are, equally with the lowest, dependent in this world on special arrangements in a material organism. It seems to me that the very fact of the question being raised whether man can be called a machine in the same sense as that in which alone the lower animals can properly be so described, is a proof that the questioner believes the lower animals to be machines in a sense in which it is not true. Such manifestations of mental attributes as they display are the true and veritable index of powers which are really by them possessed and enjoyed. The notion that, because these powers depend on an organic apparatus, they are therefore not what they seem to be, is a mere confusion of thought. On the other hand, when this comes to be thoroughly understood, the notion that man's peculiar powers are lowered and dishonored when they are conceived to stand in any similar relation to the body must be equally abandoned, as partaking of the same fallacy. If the sensation of pleasure and of pain, and the more purely mental manifestations of fear and of affection, have in the lower animals some inseparable connection with an organic apparatus, I do not see why we should be jealous of admitting that the still higher powers of self-consciousness

and reason have in man a similar connection with the same kind of mechanism. The nature of this connection in itself is equally mysterious, and, indeed, inconceivable in either case. As a matter of fact, we have precisely the same evidence as to both. If painful and pleasurable emotions can be destroyed by the cutting of a nerve, so also can the powers of memory and of reason be destroyed by any injury or disease which affects some bits of the substance of the brain. If, however, the fact of this mysterious connection be so interpreted as to make us alter our conceptions of what self-consciousness, and reason, and all mental manifestations in themselves are, then, indeed, we may well be jealous—not of the facts, but of the illogical use which is often made of them. Self-consciousness and reason and affection, and fear, and pain and pleasure, are in themselves exactly what we have always known them to be; and no discovery as to the physical apparatus with which they are somehow connected can throw the smallest obscurity on the criteria by which they are to be identified as so many different phenomena of mind. Our old knowledge of the work done is in no way altered by any new information as to the apparatus by which it is effected. This is the error committed by those who think they can found a new psychology on the knife. They seem to think that sensation and memory, and reasoning and will, become something different from that which hitherto we have known them to be, when we have found out that each of these powers may have some special "seat" or "organ" in the body. This, however, is a pure delusion. The known element in psychology is always the nature of the mental faculty; the unknown element is always the nature of its connection with any organ. We know the operations of our own minds with a fulness and reality which does not belong to any other knowledge whatever. We do not know the bond of union between these operations and the brain, except as a sort of external and wholly unintelligible fact. Remembering all this, then, we need not fear or shrink from the admission that man is a reasoning and self-conscious machine, just in the same sense in which the lower animals are ma-

chines which have been made to exhibit and possess certain mental faculties of a lower class.

But what of this? What is the value of this conclusion? Its value would be small, indeed, if this conception of ourselves as machines could be defended only as a harmless metaphor. But there is far more to be said for it and about it than this. The conception is one which is not only harmless, but profoundly true, as all metaphors are when they are securely rooted in the homologies of Nature. There is much to be learned from that aspect of mind in which we regard its powers as intimately connected with a material apparatus, and from that aspect of our own bodies in which they are regarded as one in structure with the bodies of the brutes. Surely it would be a strange object of ambition to try to think that we are not included in the vast system of adjustment which we have thus traced in them; that our nobler faculties have no share in the secure and wonderful guarantee which it affords for the truthfulness of all mental gifts. It is well that we should place a high estimate on the superiority of the powers which we possess; and that the distinction, with all its consequences, between self-conscious reason and the comparatively simple perceptions of the beasts should be ever kept in view. But it is not well that we should omit from that estimate a common element of immense importance which belongs to both, and the value of which becomes immeasurably greater in its connection with our special gifts. That element is the element of adjustment—the element which suggests the idea of an apparatus—the element which constitutes all our higher faculties the index and the result of a preadjusted harmony. In the light of this conception we can see a new meaning in our "place in Nature"—that place which, so far as our bodily organs are concerned, assigns to us simply a front rank among the creatures which are endowed with life. It is in virtue of that place and association that we may be best assured that our special gifts have the same relation to the higher realities of Nature which the lower faculties of the beasts have to the lower realities of the physical world. Whatever we have that

is peculiar to ourselves is built up on the same firm foundation on which all animal instinct rests. It is often said that we can never really know what unreasoning instinct is, because we can never enter into an animal mind and see what is working there. Men are so apt to be arrogant in philosophy that it seems almost wrong to deprecate even any semblance of the consciousness of ignorance. But it were much to be desired that the modesty of philosophers would come in the right places. I hold that we can know, and can almost thoroughly understand, the instincts of the lower animals; and this for the best of all reasons, that we are ourselves animals, whatever more; having, to a large extent, precisely the same instincts, with the additional power of looking down upon ourselves in this capacity from a higher elevation to which we can ascend at will. Not only are our bodily functions precisely similar to those of the lower animals—some, like the beating of the heart, being purely "automatic" or involuntary—others being partially, and others again being wholly, under the control of the will—but many of our sensations and emotions are obviously the same with the sensations and emotions of the lower animals, connected with precisely the same machinery, presenting precisely the same phenomena, and recognizable by all the same criteria.

It is true that many of our actions become instinctive and mechanical only as the result of a previous intellectual operation of the self-conscious or reasoning kind. And this, no doubt, is the origin of the dream that all instinct, even in the animals, has had the same origin—a dream due to the exaggerated "anthropomorphism" of those very philosophers who are most apt to denounce this source of error in others. But man has many instincts like the animals, to which no such origin in personal experience or in previous reasoning can be assigned. For not only in earliest infancy, but throughout life, we do innumerable things to which we are led by purely organic impulse—things which have indeed, a reason and a use, but a reason which we never know, and a use which we never discern, till we come to "think." And how different this pro-

cess of "thinking" is we know likewise from our own experience. In contemplating the phenomena of reasoning and of conscious deliberation it really seems as if it were impossible to sever it from the idea of a double personality. Tennyson's poem of the "Two Voices" is no poetic exaggeration of the duality of which we are conscious when we attend to the mental operations of our own most complex nature. It is as if there were within us one Being always receptive of suggestions, and always responding in the form of impulse—and another Being capable of passing these suggestions in reviews before it, and of allowing or disallowing the impulses to which they give rise. There is a profound difference between creatures in which one only of these voices speaks, and man, whose ears are, as it were, open to them both. The things which we do in obedience to the lower and simpler voice are indeed many, various, and full of a true and wonderful significance. But the things which we do and the affections which we cherish, in obedience to the higher voice have a rank, a meaning, and a scope which is all their own. There is no indication in the lower animals of this double personality. They hear no voice but one; and the whole law of their being is perfectly fulfilled in following it. This it is which gives its restfulness to Nature, whose abodes are indeed what Wordsworth calls them—

"Abodes where Self-disturbance hath no part."

On the other hand, the double personality, the presence of "Two Voices," is never wholly wanting even in the most degraded of human beings—their thoughts everywhere "accusing or else excusing one another."

Knowing, therefore, in ourselves both these kinds of operation, we can measure the difference between them, and we can thoroughly understand how animals may be able to do all that they actually perform, without ever passing through the processes of augmentation by which we reach the conclusions of conscious reason and of moral obligation. Moreover, seeing and feeling the difference, we can see and feel the relations which obtain between the two

classes of mental work. The plain truth is, that the higher and more complicated work is done, and can only be done in this life, with the material supplied by the lower and simpler tools. Nay, more, the very highest and most aspiring mental processes rest upon the lower, as a building rests upon its foundation-stones. They are like the rude but massive substructions from which some great temple springs. Not only is the impulse, the disposition, and the ability to reason as purely intuitive and congenital in man as the disposition to eat, but the fundamental axioms on which all reasoning rests are, and can only be, intuitively perceived. This, indeed, is the essential character of all the axioms or self-evident propositions which are the basis of reasoning, that the truth of them is perceived by an act of apprehension which, if it depends on any process, depends on a process unconscious, involuntary, and purely automatic. But this is the definition, the only definition, of instinct or intuition. All conscious reasoning thus starts from the data which this great faculty supplies; and all our trust and confidence in the results of reasoning must depend on our trust and confidence in the adjusted harmony which has been established between instinct and the truths of Nature. Not only is the idea of mechanism consistent with this confidence, but it is inseparable from it. No firmer ground for that confidence can be given us in thought than this conception—that as the eye of sense is a mechanism specially adjusted to receive the light of heaven, so is the mental eye a mechanism specially adjusted to perceive those realities which are in the nature of necessary and eternal truth. Moreover, the same conception helps us to understand the real nature of those limitations upon our faculties which curtail their range, and which yet, in a sense, we may be said partially to overpass in the very act of becoming conscious of them. We see it to be a great law prevailing in the instincts of the lower animals, and in our own, that they are true not only as guiding the animal rightly to the satisfaction of whatever appetite is immediately concerned, but true also as ministering to ends of which the animal

knows nothing, although they are ends of the highest importance, both in its own economy and in the far-off economies of creation. In direct proportion as our own minds and intellects partake of the same nature, and are founded on the same principle of adjustment, we may feel assured that the same law prevails in their nobler work and functions. And the glorious law is no less than this—that the work of instinct is true not only for the short way it goes, but for that infinite distance into which it leads in a true direction.

I know no argument better fitted than this to dispel the sickly dreams, the morbid misgivings, of the agnostic. Nor do I know of any other conception as securely founded on science, properly so-called, which better serves to render intelligible and to bring within the familiar analogies of Nature those higher and rarer mental gifts which we know as genius, and even that highest and rarest of all which we understand as inspiration. That the human mind is always in some degree, and that certain individual minds have been in a special degree, reflecting surfaces, as it were, for the verities of the unseen and eternal world, is a conception having all the characters of coherence which assure us of its harmony with the general constitution and the common course of things.

And so this doctrine of animal automatism—the notion that the mind of man is indeed a structure and a mechanism—a notion which is held over our heads as a terror and a doubt—becomes, when closely scrutinized, the most comforting and reassuring of all conceptions. No stronger assurance can be given us that our faculties, when rightly used, are powers on which we can indeed rely. It reveals what may be called the strong physical foundations on which the truthfulness of reason rests. And more than this—it clothes with the like character of trustworthiness every instinctive and intuitive affection of the human soul. It roots the reasonableness of faith in our conviction of the Unities of Nature. It tells us that as we know the instincts of the lower animals to be the index and the result of laws which are out of sight to them, so also have our own higher instincts the same relation to truths which are of

corresponding dignity and of corresponding scope.

Nor can this conception of the mind of man being connected with an adjusted mechanism cast, as has been suggested, any doubt on the freedom of the will—such as by the direct evidence of consciousness we know that freedom to be. This suggestion is simply a repetition of the same inveterate confusion of thought which has been exposed before. The question what our powers are is in no way affected by the administration or discovery that they are all connected with an apparatus. Consciousness does not tell us that we stand unrelated to the system of things of which we form a part. We dream—or rather we simply rave—if we think we are free to choose among things which are not presented to our choice—or if we think that choice itself can be free from motives—or if we think that we can find any motive outside the number of those to which by the structure of our minds and of its organ we have been made accessible. The only freedom of which we are really conscious is freedom from compulsion in choosing among things which are presented to our choice—consciousness also attesting the fact that among those things some are coincident, and some are not coincident, with acknowledged obligation. This, and all other direct perceptions, are not weakened but confirmed by the doctrine that our minds are connected with an adjusted mechanism. Because the first result of this conception is to establish the evidence of consciousness when given under healthy conditions, and when properly ascertained, as necessarily the best and the nearest representation of the truth. This it does in recognizing ourselves, and all the faculties we possess, to be nothing but the result and index of an adjustment contrived by and reflecting the mind which is supreme in Nature. We are derived and not original. We have been created, or—if any one likes the phrase better—we have been “evolved;” not, however, out of nothing, nor out of confusion, nor out of lies—but out of “Nature,” which is but a word for the sum of all existence—the source of all order, and the very ground of all truth—the fountain in which all fulness dwells.—*Contemporary Review.*

SOCIAL LIFE AMONG THE ANCIENT GREEKS.

As a schoolboy I had often longed—especially in school on hot summer afternoons—that I could only travel. And of all countries Greece interested me most. When at length I could indulge my wish I determined to visit ancient rather than modern Greece. One reason was that I knew the language better; another, that I believed I should see more Greeks.

I thought Syracuse a convenient place to start from. So I went there first, bought an outfit of the ancient fashion, purchased a slave (whom I immediately set free, without, of course, telling him so), and for a ridiculously small sum—only three drachmæ, I remember—took a passage in a ship bound for Athens with a cargo of wine and cheeses.

I left about the middle of March in the year 423 B.C. On landing at Piræus I found myself hemmed in by a swarm of men and heaps of merchandise, which made free movement difficult. The quays were cumbered with pottery for exportation, and ships were delivering cargoes of fine woollen stuffs and carpets, paper, glass, saltfish, corn, and ship timber. With sad interest I watched the loading also of a cargo of slaves. In the background were long lines of wharves and warehouses, shops, and bazaars, betokening a large and various commerce.

The delight of some of my fellow-passengers at setting foot on land was unbounded, and expressed itself in tears and laughter, and vows and thanksgivings to the gods. I also quietly congratulated myself; for the tales I had heard on board of pirates and kidnapers made me rather nervous when coasting; while the extremely deferential attitude of our skipper toward wind and waves inspired anything but confidence when in open sea.

On my way up to Athens I could not help reflecting what a happy arrangement it was of a seaport town to split and have the seaport four miles from the town. I was leaving behind me noise and roughness, the bustle and vulgarity of trade, the reckless riot of seafaring men, and escaping to a serener and purer air.

The day was closing as I reached the

city. Never did I come so near to worshipping Athena as when I saw her glorious temple standing clear against the sky, and glowing in the saffron light of the setting sun. I had yet to become acquainted with the delicate beauty of the temple itself, and the marvels it contained. I saw but the crowned Acropolis, dominating city and plain, and could almost believe it was indeed the seat chosen of old and beloved by a goddess, who, touched by the devotion of a faithful people, had adopted the city laid submissively at her feet.

I bore a letter of introduction to an Athenian gentleman. I was told to expect from him the most generous hospitality, as he not merely accepted gladly the customary duties of a foreign friend, but was a man of wealth distinguished by public spirit. On my way to his house in the street of Tripods, I took my earliest impressions of the city. What struck me then most was its flatness. No spires, no towers, no pinnales, no tall chimneys. The houses of the better class were not much higher than our garden walls, and almost as blank, for they had no ground-floor windows which looked into the street. The effect would have been both gloomy and unsocial, if the temples and public buildings had not made ample compensation in their number and splendor, and if open squares here and there had not relieved the sense of moroseness.

I did not know then that to an Athenian the whole city was his house, and his house merely his private room. From choice he lived in public; but still he loved seclusion for his family, if not for himself. The house I entered showed externally not a sign of life within. But in an instant my knock was answered by a porter who dwelt just within the porch, and I found myself in a narrow hall. The porter handed me on to a servant, by his manner obviously a domestic-in-chief, who came forward at the moment, and led me in silence to the master.

My first impression of an Athenian gentleman at home was picturesque and pleasant. In a small room hung with pictorial tapestry, and lighted by a single lamp placed on a tripod near the door,

was a low broad couch, of dark wood inlaid with ivory. On this, the white folds of his dress in striking contrast with the rich coverlets and the bright banded colors of the pillow he was resting on, lay a dark handsome man, of clear but sun-tanned complexion; and in front of him was standing a boy, with long black hair, whose lithe figure was well set off by a simple flannel tunic, belted round the waist with a red scarf. Close by him was a small low table, on which were a silver goblet and jug, and near them a small flute. This was the picture that met my eye as I entered; and from sounds which had met my ear as I neared the door it was plain that I had surprised a father delighting himself after dinner in his son's essays in music and recitation.

My host's ready smile told me, before he spoke, that I was expected and welcome. With a kiss and a friendly pat on the head he dismissed the lad, who, though from shyness he hardly ventured to look up, bowed low to me as he took up his flute and ran off. After the interchange of a few civilities, I was conducted to my quarters. Two guest-rooms were assigned me, both opening on a covered cloister which bordered—as did the dining-room I had left—on a square court, in the centre of which stood a rude, weather-worn statue of the tutelary deity of the family, facing an altar from which rose a tiny fountain of smoke. These rooms were very small, and had no other entrance for light than the doorway, which was closed only by a curtain. In one was a bedstead supporting a woollen mattress laid on girths, on which were lying loosely blankets of colored wool. In the other was a chair, a stool, a cushion, and a lamp. This simple furniture was of singularly rich workmanship, and most graceful in design. I felt in luxury, though there were two or three articles absent which I was accustomed to require, one of which was certainly a table. It had been explained to me, by my friend to whom I owed this introduction, that being hospitably entertained at Athens would mean having separate rooms given me in the house, together with light, firing, and salt; that I might expect to be asked pretty frequently to the family dinner, and to receive from the family

some occasional presents of wine, or fruit, or vegetables; but that I must cater for myself, and should enjoy entire liberty of action. This was exactly the position in which I found myself for some weeks, though my host, as time went on, asked permission to treat me more as a brother than as a guest. That evening I was summoned back to the dining-room, where supper had in the meantime been served on a light portable table. An hour was spent in conversation, and I went to my couch.

At daybreak I was aroused by the entrance of a slave bringing bread and wine, which he placed on a small table by the side of my bed. This I took as a hint to rise. I was fortunately in one of the few wealthy houses that could boast of a private bath, so that the desire toward the tub was pretty liberally met. I found my host up and carefully dressed. He had already been out to make a call on a friend, and was now ready for the usual morning walk. Before leaving England I had been told by Mr. Mahaffy, who had been in ancient Greece some time before, that I should find many ways of thought at Athens strikingly modern. I was reminded of this when my host, without a hint from me, or any knowledge whatever of my tastes, supposed as a matter of course that I should like to see the sights of Athens, the Pantheon, and the other temples and public buildings, and asked me if I cared for statues and paintings, and architecture. Under his guidance I had my first acquaintance with the masterpieces of Pheidias and Polygnotus. He was not learned in art, but he was proud of the glories of his city, and had a genuine delight in beauty.

He said he felt happier, more serene, more religious for having beautiful forms about him; and that the gods also were pleased to dwell in fair houses. He thought it showed a high wisdom in Pericles and Cimon to devote public money to such ornament, as Athens thereby gained a name among cities everywhere—his 'everywhere' was rather limited perhaps—and her citizens must needs be elevated by the daily contemplation of what was fair and noble.

As, toward noon, we passed through the market-place on our way home, it was evident that others beside ourselves

thought their morning's work to be over. The bankers were clearing their tables and locking their cash-boxes; stalls were being covered up from the heat and dust, and the market-people were already settling themselves in sheltered corners, to eat and drink, or to sleep.

Breakfast was awaiting our return; and I was not sorry to find it a substantial meal. Fresh fish, soup, vegetables, bread, cheese, fruit, and honey-cakes in succession were brought in; and there, lying beside them in the cool, dark little dining-room, my host and I discussed the rival merits of the statues of Athena, compared the place of Assembly with the theatre of Dionysus, talked over the frescoes in the market-place and in the Propylæa, and forgot the glare and dust outside.

Breakfast over, it was hinted to me that sweet and healthful was the mid-day sleep. So I retired to my private quarters and fell in with Athenian custom.

After the siesta I was studying with grave attention the features of the tute-lar of the house, whom I have before described as standing in the court, when my host approached from the inner part of the house, which I afterward found to be a second court behind ours, where the women-folk dwelt apart. It was now late afternoon, and he proposed a stroll toward the Gymnasium. I had heard much of this national institution, and was glad to see it under such good escort. We turned our steps toward the Lyceum, our slaves of course in attendance. I need not describe the building, as we all have read Vitruvius. But I wish I could so describe the scene within that my readers might see it as distinctly as I can recall it. We Englishmen can understand well enough the interest of watching games in which we once excelled, and of looking on at feats of strength or skill which we used to practice. It comes natural, therefore, to us to imagine the middle-aged and elders of Athens often looking in to see their youngsters trained to manly vigor and activity. Up to eighteen years of age themselves had wrestled, and run, and boxed, and leaped, and thrown quoits with as much energy, I suppose, as we give to cricket, and rackets, and foot-

ball. We do not all of us care to watch the feats of the gymnasium, for the reason that some of us were born in the pre-gymnastic age in England, and so cannot truly criticise them or enter into their spirit. Indeed we do not all set a high value on them; and many of us would prefer to see our sons handle a bat or an oar well, or ride well to hounds, or excel in skating, shooting, or any of our own sports. But given that we had *all* been trained in a regular course of athletics, and all our lives called them "thoroughly English," and that we were accustomed to think our national superiority due to our pre-eminence in such training. I suppose we might, if time had to be killed—as it always had to be at Athens in the afternoon—frequent a gymnasium daily, even when there was no match on. I was not surprised, therefore, to see groups of men all over the grounds, eagerly watching the jumping or the quoit-play, or the spear-hurling. Here and there two or three youngsters were practising by themselves apart, under no instructor. Where a crowd was, you knew that a contest of more than usual interest was going on.

That the lads were stripped for their exercise seemed suitable with the conditions. But the sight of them all oiled and sanded made a strange impression, as of animated terra-cotta statues.

Colonnades for the accommodation of spectators were an obvious necessity, when few gentlemen wore hats of any kind, and the sun was strong. Stone or marble seats were ranged about, in the open air or under cover, in one of the many rooms, large and small, which opened out of the colonnades. Some of these benches were of that semicircular form which a talkative people would naturally hit upon, and which we see among ourselves in village inns, survivals of a time when the villagers met to talk, and "news much older than the ale went round," before men had invented the sociable custom of retiring apart each behind his newspaper.

I was certainly surprised at first to find so many people assembled there, and thought it must be a field-day, or a festival. But I soon found that all Athens men turned out in the afternoon as regularly as Oxford or Cambridg-

men. Indeed, the most striking feature of Athenian life was its leisure.

Business was over by noon. And as all outside work was done by slaves, and the shopkeepers were nearly all either freedmen or resident aliens, a large number of even the very poor Athenian citizens had the better part of their day free. And this produced a certain sedate and self-possessed bearing in them all. To walk fast or talk loud in the street was looked on as vulgar. Of indolence as the fruit of this *insouciance* there was plenty; but still the general level of intelligence and activity of mind was high enough to make indolence disreputable. They regarded their leisure as a mark of freedom and high privilege. This self-conceit had its disagreeable side, but I doubt if they were not the better for having time to call their own: especially as rich and poor at Athens shared the same amusements.

But to return to the Gymnasium. To all the youths under 18 it was a practice-ground that they attended regularly, the boys in charge of their slave servant, the elder fellows by themselves, though doubtless some of them disliked the grind, and preferred a quiet quail fight when they could get it on the sly. Full-grown men, who had not lost all taste for strong exercise, found there an opportunity of keeping up their muscle, or at least of taking a constitutional, with the luxury of a bath afterward. To the citizen whose athletic days were quite over it was a lounge and a club.

This was my first introduction to society, and a very pleasant way of getting to know people I found it. My host was in his element. Being a man of position and a friendly man, with a strong interest in politics, and a liking for free and genial conversation, he thoroughly enjoyed this concourse of talkers. One would pull his cloak as he passed and tell him a bit of news; another in a low voice would ask his advice in a case of difficulty; a group of gentlemen as he approached would hail him, and make room for him on their bench, and draw him into their discussion.

They welcomed me among them with great politeness, explained to me everything that was going on, and asked many questions about the training of the youth in my country. As at that time

athletics had not been introduced into schools or universities, I did what I could to exalt our national games. Football rather took their fancy, especially as I described it, as far as possible, in Homeric language. I did the same with a university boat race, and the Derby, and had a very excited audience. I then rashly tried my hand on a cricket match, and, I am afraid, effaced the excellent impression I had made of our national spirit and good sense. Perhaps, as it struck me afterward, my constant mention of the eleven called up ludicrous associations;* but at all events they seemed to think that the whole story was meant as a joke, and just then a seedy-looking bystander, pouncing on my admission that we did not train our youth on any system, launched forth into an oration, and crowded over all foreigners for a good twenty minutes, and so got a crowd about us, which I was glad to escape from at the first opportunity. I heard afterward that he was a rhetorician of the baser sort, looking out for pupils.

I would here remark on the excellence of our public-school education, which could enable a foreigner like myself so easily to associate with cultivated Greeks. My only difficulty arose from my having read so much Greek literature of a later date than the time of my visit. I often detected a pleasant smile at my use of a word from the later poets or orators; and I was frequently obliged to accept an ironical compliment to my inventive genius, and check myself as I was on the point, with a scholar's instinct, of justifying myself by quoting what was, of course, future authority.

After this it was seldom that I did not go in the late afternoon to one or other of the Gymnasias, and I soon had many friends. The *Academeia* was the pleasantest, as it lay among olive woods, and was also planted within its walls with olive and plane trees, and, being some little distance from the city, it was not so crowded. I tried to get some of my friends to take their constitutional in the country sometimes for a change, and once I succeeded in dragging three of them to the top of *Lycabettus*—the *Ar-*

* "The Eleven," at Athens, be it known, if unknown, were the Commissioners of Police.

thur's Seat of ancient Edinburgh. To me the walk was delightful, but they abused me all the way there and back, and no one could imagine why we should have taken so much trouble for nothing, while not a few thought it in bad taste. I tried after that to find a companion who would make a day's excursion with me up Hymettus—about equal to Snowden from Capel Curig—but I was obliged to do it by myself after all, and, not wishing to be thought eccentric or ill-bred, I took care not to talk about it. After this I was not astonished to hear that several able generals held the Gymnasium to be but a poor training school for soldiers.

I spent a good deal of time in simply walking about the city. It was interesting to notice even the smallest incidents of the daily life of a people so like and yet so unlike ourselves. The urchins playing with knuckle-bones on the door-steps, or driving their hoops between your legs; the young gentlemen being fetched from the day-school by their attendants, who matched, I observed, the strictest governess of a ladies' seminary in their repeated orders to their pupils to walk properly and not look about them; the novel street cries, the wine-carts going their rounds—all these amused me. The streets were not only narrow and dirty, but ill-flavored. The poorer houses were generally built partly of timber, and of two stories, the upper overhanging. I had to be wary, as dirty water or broken crockery followed pretty quick after the warning, "stand aside." They might have paved the streets with the enormous quantity of potsherds lying about, and I very often wished they had. It was always a relief to emerge into one of the open spaces, and of these the Agora was the one I most frequently made for. During market time, *i.e.*, from nine till noon, it was full of life, and presented a fine field for the study of manners.

The marketing was done by slaves. A head slave, with the power of the purse, and a train of drudges to carry home the forage, naturally thought himself at this hour a man of importance. Very often he looked it too, for the fortune of war and the cleverness of pirates had often made a slave for life of a man of birth and rank. And it was fortunate

for such a man if he found himself at Athens, for there a respectable slave, especially if his master detected any refinement in him, was generally well treated. Such a band of foragers was, of course, eagerly watched by the stall-keepers who were very adroit and shifty in their manœuvres to catch customers. The art of bargaining was well understood on both sides, and the price was seldom fixed until after a protracted skirmish. The fishmongers were an exception. They, I observed, had generally the command of the situation, for not much meat was eaten—scarcely ever, indeed, unless there had been a sacrifice—and fish being almost universally the chief dish at table, the supply, at all events of fashionable fish, was usually short of the demand. This made the fishmonger a careless and often insolent tradesman. It was easier, they said, to get an answer from a State official than from a fishmonger. Perhaps, too, their self-importance was fostered by gentlemen coming to choose their own fish. The inspectors of the market were very strict over this trade, and in order to secure the sale of none but fresh fish, forbade altogether the use of the watering-pot; and a very good story was told, when I was there, against a certain fishmonger, who was subject to fainting fits, and could be brought round only by having pitchers of water thrown over him. As he always collapsed close to his stall, his friends, in following the laws of humanity, broke almost daily the law of the market.

The stallkeepers, of course, cried what they had to sell; but the usual rule of market cries was often reversed by a slave announcing in a loud voice what he had come for. It was not unusual to hear a man come into the market and sing out, "Who wants to undertake the supplying of a dinner?" This demand would bring up five or six men who had been loitering under the porticoes. They were a strange lot, these cooks or caterers, or whatever else they called themselves. They all either were, or pretended to be, foreigners, and spoke either Doric or broken Attic. I had no occasion to engage the services of one of these gentlemen, but I was told that when you did you engaged a

tyrant, whose laws of high art it was very rash to defy.

So far was comedy ; but a very serious and solemnizing spectacle might be seen close by, especially as it drew near to the end of the month, at the tables of the money-lenders. I heard these men described only by their natural enemies, the borrowers, of whom I had many among my chance acquaintances, but I must say that their faces tallied with the description. They sat at their tables with a severe four-and-twenty-per-cent look, which should have been sufficient warning. I was told that they did a little legitimate banking trade, but the clients oftenest at their tables, so far as I observed them, were young men who negotiated in a whisper, and looked uneasily over their shoulder if any one passed too near.

But the market square held more than the market. It was during the forenoon the very centre of Athenian life. It was exchange, bazaar, park, garden, esplanade, kursaal, reading-room, club, and whatsoever in any place is the common meeting spot for men of business or men of leisure. Being close to the law courts, it was also Westminster Hall to orators and their clients and witnesses. Having colonnades running round it furnished with stone benches, it was a convenient place for gossip, or for walking up and down in pursuit of an appetite for breakfast. It was here that you heard and discussed the news, war news just brought from Piræus by special messenger,* or city news—who had got office, who had been cast in a lawsuit, what plays were being rehearsed, what new edicts to be put in force ; domestic news about relations, friends, crops, purchases, births, deaths, and marriages. The shops in the neighborhood were also filled with loungers, especially the perfumer's, and the barber's and the shoemaker's. It was in the market place and its neighborhood that all business was transacted. Here the Athenians realized their common citizenship, and got their common sense. By daily intercourse here, rich with poor, they rubbed down their angles, acquired a public spirit, and by interchange of

ideas, controlled by free and sharp criticism, developed a public opinion. It was in the market-place that one felt for the pulse of Athens.

Close by, as I said, were the law courts, and I often found it good fun to look in there, and it seldom required much knowledge of law to follow the proceedings. Indeed it often struck me that I knew quite as much as their honors the jurymen. "The sovereign people sitting in justice" had once seemed to me a grand idea, and doubtless the thing had served its purpose as a safeguard of growing liberties ; but to see the average citizen honestly trying to be wise, or dishonestly trying to look so, I confess had another effect upon me. It was amusing to watch their expression of grave attention while an orator was laying before them the weakest and wildest evidence ; or perhaps flattering their logical faculty by exhibiting a strong chain of reasoning, while all the time, as the rogue very well knew, it was hanging by a rotten fallacy. But if persuasion be the end of oratory, the orators had mastered their art.

The scenes in court also were excellent fooling. The defendant was exhibited weeping, and how well and naturally he wept ! Women and children were grouped, with a fine eye for dramatic effect, in various attitudes of abject misery. One heard splendid abuse, too, strong and abundant personalities, as the orators drew freely on the vast resources of a vigorous and expressive language. What one did not meet with in court was high legal ability. The orators were too shrewd and practical, if they possessed it, to throw it away on an ignorant and prejudiced tribunal. But if a qualified judge had replaced these panels of citizens then sitting *in banco*, in what other profession could many of them have earned fourpence-halfpenny a day ? That was the question.

The poorer folk seemed to me to resemble our villagers, not only in their simple way of living, and in their readiness to help each other, but also in the freedom which they gained by having no class between them and the gentlefolk. Fashion had little or no influence upon them, and they lived their own life free from criticism, and free from the ambition of rising. But they were unlike our

* There was some fighting going on in 423, along the Macedonian coast, though it was a year of truce.

poor villagers in this, that the head of a family knew his worth and privileges as a citizen, and gained a certain dignity by the knowledge. Though he certainly was not enriched, he was raised socially by the existence of the class of slaves.

The habits of the rich were essentially such as are formed by city life, with leisure and intelligence. Dinner parties were almost daily events. You were invited without ceremony, and went without preparation, or no more preparation than was implied in providing yourself with a gown. Men were sociable and disliked dining alone, just as they dislike sitting or walking alone.

Here I saw the strongest likeness to university habits, and the likeness was not in mere sociability. I was present at not a few dinner parties which seemed to me, in the tone of conversation, in the range of topics discussed, and generally in intellectual and social merit, not greatly to differ from a graduates' dinner party at Cambridge. The customs, of course, were very different; having your feet washed by an attendant on your arrival, lying propped on your elbow to eat and drink—though I had done that at picnics—pouring libations to the good Genius, being called upon to recite, or sing a medley song, verse and verse about, were novelties, but one fell in with such usages easily enough. Once, I remember, when over our wine, the sprig of myrtle was passed to me in token that it was my turn to entertain the company with a song or recitation. I recited to them some iambs of my own—a translation of "To be or not to be," which I had written some time before for the Porson Prize. When I had ended, a brisk discussion arose on the question out of what tragedy they came. Some believed they had the ring of Sophocles, others declared that they remembered the phrases as certainly those of Euripides, but no one could fix on the precise play, nor could I.

Wine-drinking always followed the dinner, and bore about the same relation to it that it did formerly with us. As there were no ladies to join in the drawing-room, it was more difficult for the host to choose a moment for asking significantly if you would take any more wine. Excess, therefore, was often, I am convinced, an accident of the situa-

tion. Sometimes, of course, a carouse was the final cause of a wine party, especially among the youngers, as it doubtless has been of supper parties in other abodes of divine philosophy. I was told that on such occasions the usual hard custom which excluded ladies from social entertainments was sometimes relaxed, but I have no personal experience of such a wine party recorded in my note-book.

The absence of women from all social meetings did not on my arrival at Athens at once strike me as strange. I suppose this was because I was fresh from university life. I was so much used to meeting men only down the river and at the racket-courts, at the Union, and at wine and supper parties, that I did not miss female society, especially as the society in which I did find myself was, in its freedom, in its true liberty, equality, and fraternity, so wonderfully like that which I had just left. But I noticed the blank more and more as the days went on, and then I began to estimate the effect on social life of excluding the women. It was plainly visible in a certain roughness of feeling, in the absence of that tenderness which produces pity and sympathy with weakness, and restrains men from selfishness and cruelty. There was not much respect shown to age at Athens. Poverty provoked rather than disarmed ridicule. Tales of cruelty might arouse dangerous bitterness, especially if it affected Athenian citizens, but the cruelty did not in itself excite abhorrence. A man who was hard and brutal toward his slaves was called a stern master, but no one remonstrated. Intellectual refinement was certainly prized highly enough, and the civic virtues were actually worshipped, but, to my thinking, Greek civilization was still incomplete, through lack of that sensitiveness to one side of morality which I could not help believing that the influence of women in daily life would have helped to develop. I found many thoughtful Greeks holding the same opinion.

I frequently heard the subject of the position of women discussed as part of a larger question just then interesting the mind of Athens. This was the question of Past *versus* Present. In politics no one seemed for a moment to doubt—

with the exception of a few recluse thinkers—that the present institutions of Athens were perfect, or that in political knowledge they had left their ancestors a long way behind. But the case was far different in the matter of social usage. Here there was distinctly an old school and a new school—a Conservative and a Liberal camp. Of course on these matters prejudice spoke oftener, and, I need not say, very much louder than reason. Banter and satire were weapons more used than argument. But there was still a great deal of good, thoughtful talk over it to be heard at the Gymnasium, and in private houses after dinner. In listening to these discussions I had constantly to remark upon how small an amount of ascertained historical fact the arguments of the most learned disputants were based. There was a constant appeal to the authority of great names, but a most provoking vagueness in reporting their testimony. But there was certainly one exception to this. When Homer was cited his very words were given, and were received by all with a certain pious respect which usually silenced controversy. I soon learned to quote Homer when I was getting the worst of an argument.

Now it was not difficult to make Homer support a theory that women had much to do with the affairs of the world, and ought not to be shut up by themselves in the back premises and seldom seen. He was often hurled with tremendous effect against those who maintained that women had no minds, and were properly employed in cooking, weighing out the wool, weaving, and guiding the house. But again it was retorted, "Pericles hath said that those women are the best of whom you hear the least for good or evil."

The stage naturally reflected and intensified the controversy. Euripides, who had just brought out his play of *Ion* when I was at Athens, was claimed as a strong ally by those who held women inferior. It was true he seldom wrote a play* without putting into some one's mouth a sharp sarcasm against women, which was caught up and gave another brickbat to the hands of their revilers. But, curiously enough, it escaped notice

that he delighted to bring on the stage types of noble women who refuted these sarcasms. However, Euripides never had a fair chance with that clever, reckless scoffer Aristophanes always at his heels. It was no use contending that really he was strongly on the women's side, and was trying to teach their husbands that they were hiding the light that would brighten their whole house. He, or what was the same thing, one of his women-hating heroes, had said that women were a bad lot, and that was enough.

After all, I could not see that the stoutest advocate for the emancipation of women gave them half an inch more freedom than his neighbor. He might believe in the ability and intelligence of women; he might prove conclusively to others that women had once held a higher position in Attic society, and had a real influence upon daily life. He might go further, and, speculating on the cause of this, convince himself that, in the absorbing pursuit of political interests, his fellow-citizens were growing selfish and despotic, contemptuous toward all force that was not keen and practical; but all the same he was a despot in his house and selfish in his pleasures. It may have been he lacked the courage to face a torrent of ridicule; but it may have been also that he doubted in his secret mind whether society, as he knew it, was quite ready for his wife.

I fancied that my host was one who thought thus. He was too kindly a man to be a tyrant anywhere, and I recollect that in my hearing he once compared the rule of a husband over his wife to that of a constitutional ruler over citizens free and his equals. Also, as we became more intimate, I found that he loved family life; still he jealously guarded it from public view. When he entertained his friends at dinner his wife did not appear, but when we were alone she generally breakfasted with us, she and her three children, sitting at tables, while we reclined; and not unfrequently she dined with us. She was very gentle and simple-minded, but in no respect shy or awkward, but, on the contrary, self-possessed and rather stately. He treated her with kindness and courtesy, told her the news, with a little reservation where necessary, and she took her part very easily and natu-

* I may as well say that copies of many of these plays have been since published in England.

rally in conversation. I do not think her life was dull. It is true that, so far as my observation went, she never, while in Athens, went out unless to attend religious festivals, processions, and sacrifices, but they had a house in the country where they spent part of the year. There she enjoyed more liberty, and probably she no more wished to frequent the Agora or the Gymnasia than our ladies wish to go on 'Change, or have the *entrée* of our clubs.

Festivals were very frequent. Their usual programme was a religious ceremonial in the morning, and high spirits in the evening. The ceremonial was often made imposing by a procession with choral hymns, in which high-born ladies, youths, and maidens took graceful part. No people who do not wear flowing robes, and cannot sing as they walk, should dare to have a procession. Sacrifices and prayers were offered. It was difficult certainly for a foreigner to understand the attitude of the Greek worshipper toward his gods. I learned by observation a good deal about his ritual—little about his worship.

The great Dionysia had taken place in March, some days before my arrival. On the whole, I was very glad to have missed it; for I am afraid that had I taken my first impression of Athenian life when it was in drunken riot, I could never have laid ill-prejudice aside. Hating noise, buffoonery, and vulgar revelry, I was grateful to the sea for not having been, to Greek judgment, navigable in time to set me down in the midst of the debauch that was going on in honor of that disreputable person whom Athens delighted to honor as the giver of wine to men. As it was described to me, the city by sunset must have been unbearable. The dismal merriment of English fairs and race-courses, the stupid pleasantries of a carnival, the heavy-headed drunkenness of a harvest-home, and the light-headed orgies of richer young Bacchanals, were all brought together within one city's walls. The earlier part of the day, beyond doubt, had shown a spectacle such as few cities could present, and for this I had greatly wished to reach Athens earlier. The vast amphitheatre on the slope of the Acropolis was empty when I saw it. To have seen that hillside a serried mass of

men and women, and to have sat among them and watched them as they shaded their eyes from the glare to catch the form of a hero whose name they had known from childhood, and leaned forward to lose no word that could help to make the story plain, the story they had heard so often from their nurses, of those days of old when the gods walked the earth like men, and loved the founders of their race, and helped them to overthrow their enemies, and to build the city—to have seen this, sitting there under the blue sky, beneath the shadow of the Acropolis and its temples, with Hymettus, and the gleaming sea, and the far-off peaks by Salamis in view—to realize thus the religious power of a Greek drama, would have been a memorable experience. An English traveller, Mr. Jebb, who was at Athens some years before me, has thus vividly recorded the impression left on his mind by such a scene:*

"We are in the theatre of Dionysus at the great festival of the god. There is an audience of some 25,000, not only Athenian citizens and women (the latter placed apart from the men in the upper rows), but Greeks from other cities, and ambassadors seated near the priests and magistrates in the places next the orchestra. We are to see the *Eumenides* or *Furies* of Æschylus. The orchestra is empty at present. The *scene*, or wall behind the stage, represents the temple of Apollo at Delphi. It has three doors. Enter, from the middle or 'royal' door, the aged priestess of Apollo; she wears a long striped robe, and over her shoulders a saffron mantle. Pilgrims are waiting to consult the oracle, and she speaks a prayer before she goes into the inner chamber of the temple, to take her place on the three-footed throne, round which vapors rise from the cavern beneath. Then she passes into the shrine through the central door.

"But she quickly returns in horror. A murderer, she says, is kneeling there, and the ghastly Furies, his pursuers, are asleep around him. As she quits the stage by the side door on the right two figures come forth by the central door, as if from the inner shrine. One of them wears

* "Greek Literature," by Professor Jebb. Macmillan & Co.

the costume of the Pythian festival at Delphi—a long tunic, gayly striped, with sleeves, and a light mantle of purple hanging from the shoulders. In his left hand he has a golden bow. This is the god Apollo himself. The other figure is clad with much less splendor; at his back hangs loosely the petasus, a broad-brimmed hat worn by hunters, or shepherds, or wayfarers; in one hand he bears a long branch of laurel, the symbol of the suppliant, in the other a drawn sword. This is Orestes, who has slain his mother, Clytemnestra, the murderess of his father, Agamemnon, and has sought refuge with Apollo from the pursuing Furies. A silent figure moves behind these two; it is the god Hermes, carrying in his hand the herald's staff, decked with white ribbons. Apollo bids Hermes escort Orestes to Athens, to seek the judgment of the goddess Athene.

"The ghost of Clytemnestra now moves into the orchestra, and mounts the stage. She calls on the sleeping Furies within, and then vanishes. They wake to find Orestes gone, and dash on the stage in wild rage—haggard forms with sable robes, snaky locks, and bloodshot eyes. Apollo appears, and drives them from his shrine. Now the scene changes to Athens. Meanwhile the Furies have taken their station as chorus in the orchestra, and, in grand choral songs, declare their mission as Avengers of blood. Athene assembles a Court of Athenians on the Hill of Ares (the real Hill of Ares was not half a mile off, on the S.W. side of the Acropolis), and thus founds the famous Court of the Areopagus. The Furies arraign Orestes; Apollo defends him. The votes of the judges are equally divided. Athene's casting vote acquits Orestes. The wrath of the Furies now threatens Athens. But Athene at last prevails on them to accept a shrine in her land—a cave beneath the Hill of Ares; and the play ends with this great reconciliation, as a procession of torch-bearers escort the Furies to their new home.

"Thus a Greek tragedy could bring before a vast Greek audience, in a grandly simple form, harmonized by choral music and dance, the great figures of their religious and civil history: the god Apollo in his temple at Delphi, the

goddess Athene in the act of founding the Court of Areopagus, the Furies passing to their shrine beneath the hill, the hero Orestes on his trial. The picture had at once ideal beauty of the highest kind, and, for Greeks, a deep reality; they seemed to be looking at the actual *beginning* of those rites and usages which were most dear and sacred in their daily life."

I stayed at Athens until nearly the end of the year. I saw many men now famous. One could meet Sophocles and Euripides almost any day in the *Academeia*, musing on a bench, tablets in hand, or pacing beneath the olive trees. Aristophanes was oftener to be found surrounded by a few choice friends. His gray, observant eyes would rest for awhile on the scene around him, and then be lighted suddenly by a thought, which, being altogether irrepressible, would set all his friends off laughing. Cleon, too, I had no cause to dislike him, but I never saw him without wishing I had; but it was better, perhaps, as it was, for he looked an awkward fellow to quarrel with. Who could help knowing Alcibiades—the lion's whelp whom the city, having brought him up, was bound to humor? He was the spoiled child of Athens. His follies—as they said—were only Athenian virtues run wild, and his virtues Athenian too, but cast in the heroic mould. And friend Socrates. I little knew then the marvellous spiritual power yet to go forth out of that strange life. The first time I saw him he was sitting by the roadside, in a day dream, near the fountain of Callirrhoe, tracing idle figures in the dust with the point of his stick. I stopped for a draught of water. He looked up and asked me if I drank because I was thirsty, or for any other reason. As I turned in surprise at the question, he got up from his seat and joined me along the road, pressing me for a reply, till from that he led me on—but any one can guess what happened to me. After that I saw him every day, but never again alone.

I might speak of others; but my personal recollections of the celebrated men I met have already been published in a dictionary of Greek Biography, which is now in every library. I might relate, also, many personal adventures. One I

will mention because it is illustrative. One morning, very early, on entering the Agora, I saw that something unusual was going forward. A number of public slaves, armed with bows, were pushing the market-people about, pitching their wares unceremoniously off the stalls, back into their baskets, and clearing them out of the square bodily. A painted rope, still wet, had in the meantime been carried behind the group in which I was standing, and we all were forced along, under penalty of getting our white cloaks striped with red paint. Not liking this, I looked about for escape, but the side streets were all blocked by hurdles, and finding that my companions enjoyed my dilemma, and took their own shepherd-ing good-humoredly, I submitted to be driven along until I found myself within the Pnyx. I had no right there, I knew; but I took advantage of the irregularity of my summons to attend the Athenian House of Commons. I cannot fully describe the proceedings, for I was too far off to hear all. There was a solemn lustration by the priest; after it a prayer which sounded to me very like an imprecation, and incense; and then the business began. No important question, I knew, could be before the

people, as I should certainly have heard of it. So I amused myself by looking about me. It was a monster meeting in the open air, conducted with tolerable decorum and solemnity. There was no occasion that day for a ballot, and the votes were taken by a show of hands. To see 8000 hands go up, with one movement, as it were, certainly made unanimity expressive. This happened three or four times. Then the people wanted a debate. In answer to a crier's invitation an orator—who looked very small in the distance—slowly mounted the stone platform. He was a practised speaker, and his voice was heard clearly over the whole vast area. Another who followed was not so well prepared, and the sovereign people showed some impatience. There were no seats, and the sun was blazing down on my head, but I was afraid of incurring some unknown penalty if I deserted. At last fortune was friendly. A noisy fellow in my neighborhood, who had been shouting, and offering to fight all who differed from him, was suddenly clapped on the shoulder and marched out by the bowmen, after some slight resistance. In the confusion I slipped out too, and went home to breakfast.—*Cornhill Magazine.*

A LETTER FROM NEWPORT.

BY FREDERIC W. H. MYERS.

φαῖη κ' ἀθανάτους καὶ ἀγῆρας ἐμμεναι διὰ
ὅς τ' ὅτ' ἐπαντίσσει' ὅτ' Ἴαονες ἀδρῶσι εἶεν.

THE crimson leafage fires the lawn,
The piled hydrangeas blazing glow;
How blue the vault of breezy dawn
Illumes the Atlantic's crested snow!
'Twixt sea and sands how fair to ride
Through whispering airs a stairlit way,
And watch those flashing towers divide
Heaven's darkness from the darkling bay!

Ah, friend, how vain their pedant's part,
Their hurrying toils how idly spent,
How have they wronged the gentler heart
Which thrills the awakening continent,
Who have not learnt on this bright shore
What sweetness issues from the strong,
Where flowerless forest, cataract-roar,
Have found a blossom and a song!

Ah, what imperial force of fate
 Links our one race in high emprise !
 Nor aught henceforth can separate
 Those glories mingling as they rise ;
 For one in heart, as one in speech,
 At last have Child and Mother grown—
 Fair Figures ! honoring each in each
 A beauty kindred with her own.

Through English eyes more calmly soft
 Looks from gray deeps the appealing charm ;
 Reddens on English cheeks more oft
 The rose of innocent alarm—
 Our old-world heart more gravely feels,
 Has learnt more force, more self-control ;
 For us through sterner music peals
 The full accord of soul and soul.

But ah, the life, the smile untaught,
 The floating presence feathery-fair !
 The eyes and aspect that have caught
 The brilliance of Columbian air !
 No oriole through the forest flits
 More sheeny-plumed, more gay and free ;
 On no nymph's marble forehead sits
 Proudlier glad virginity.

So once the Egyptian, gravely bold,
 Wandered the Ionian folk among,
 Heard from their high Letöon rolled
 That song the Delian maidens sung ;
 Danced in his eyes the dazzling gold,
 For with his voice the tears had sprung—
 "They die not, these ! they wax not old,
 They are ever-living, ever-young !"

Spread then, great land ! thine arms afar,
 Thy golden harvests westward roll ;
 Banner with banner, star with star,
 Ally the tropics and the pole—
 There glows no gem than these more bright
 From ice to fire, from sea to sea ;
 Blossoms no fairer flower to light
 Through all thine endless empery.

And thou come hither, friend ! thou too
 Their kingdom enter as a boy ;
 Fed with their glorious youth renew
 Thy dimmed prerogative of joy—
 Come with small question, little thought,
 Through thy worn veins what pulse shall flow,
 With what regrets, what fancies fraught,
 Shall silver-footed summer go—

If round one fairest face shall meet
 Those many dreams of many fair,
 And wandering homage seek the feet
 Of one sweet queen, and linger there ;

Or if strange winds betwixt be driven,
 Unvoyageable oceans' foam,
 Nor this new earth, this airy heaven,
 For thy sad heart can find a home.—*Fortnightly Review*.

NEWPORT, R. I., September, 1879.

DECORATIVE DECORATIONS.

AT first sight, the two words which I have put at the head of this paper look like an obvious tautology. All decorations, you will object, *must* necessarily be decorative. And yet, if I may judge by personal experience in most such English houses as have come under my notice, by far the larger part of our decorations are nothing of the sort. In fact, my purpose in writing this very article is just to put forward a plea for the use of decorative objects and designs in decoration; and to make my meaning quite clear, I will begin with two examples, one of either sort.

Here on the table before me stand a piece of French porcelain and a small red oriental earthenware vase. The French porcelain is undoubtedly in its way a work of art. It is produced in very fine clay, made of the best artificial ground kaolin, and tempered with every addition known to the highest modern handicraft. As paste, it is technically perfect. Its grain is fine, white, and even; it is almost transparent to light; it is thin and delicate to the touch; and it rings, when struck, with a clear and resonant note to the ear. It has been moulded into a shape which, though a trifle complicated and wanting in simplicity of outline, is yet pretty and graceful enough after its coquettish Parisian fashion. True, the handles are a little more twisted and curled than I myself should care to have them; and the lip is broken a little more into curves and wriggles than I myself like it; and the natural sweep of the swelling neck and body is somewhat marred by a series of flutings and excrescences which I myself would prefer to remove. But on the whole it satisfies the average taste, and its form may be fairly accepted as a good specimen of the ornate style in ceramic art. As for its coloring, it is really well managed, if we regard the vase as an

object *per se*. There is a ground of a rich deep purplish hue; and there are knobs of creamy white and handles of a good contrasting green; and in the middle there is a bunch of flowers, painted with great care and taste by an artist who ought not to be throwing away his skill upon such a trifle as this. He is one of the best Sèvres painters, and he has taken an amount of pains over these violets and cyclamens which is quite out of proportion to the result obtained.

That is a fair description of the porcelain vase, by itself. Now let me put it on the mantel-shelf, and take a look at it for a moment as a decorative object. There can be no question that, from this point of view, the piece of porcelain is a total failure. It is pretty enough when you look closely into it; but at three yards' distance it is nothing at all. The colors are all jumbled together indistinguishably; the carefully-painted bunch of flowers is quite lost; and the shape, obscured by its twists and twirls, becomes simply chaotic. There is no outline, no recognizable figure, no real harmony of color, nothing but a shapeless desert of purple and green, with a whitish medallion, variegated by pink and blue patches, in its centre, which are vaguely recognized as meant for the bunch of violets and cyclamens aforesaid. As a decoration for a room this Sèvres vase is nowhere.

I turn next to the little bit of red oriental earthenware. It is made of common clay, and has not been moulded with all the care bestowed upon the French porcelain; but its outline is simple, graceful, and full of native taste. Its swelling bulb curves outward just where it ought to curve, while its slender neck contracts just where it ought to contract, and just to the right extent. Were it fuller below, it would be bulky and inflated; were it slighter above, it would

be gawky and awkward ; but as it is, it has hit exactly the right mean in tallness and slenderness, in breadth and depth. It has about it that nameless something, that indefinable tone of grace, which one finds in the best Roman amphoræ, the best Etruscan vases, the best Grecian beakers, the best prehistoric flasks and cruses. There are no jutting ornaments, no twisted handles or undulating lips ; nothing but sympathetic curves, melting into one another without angularity or break of continuous contour. The whole figure has been moulded by a few turns of the wheel, and nothing has been added or altered afterward. In color it is uniform throughout, of a deep and full red, neither crude on one hand nor dull on the other. Its hue is entirely produced by a single vitreous glaze, a little plashed in the firing, but otherwise unvaried from end to end. Though comparatively dear in England now, because old and uncommon, I suppose it cost sixpence to make originally, while the Sèvres vase cost twenty guineas. In itself, as a work of art, it is a mere toy ; no more comparable in technique to the bit of French porcelain than a blue-and-white teacup is comparable to a group of Greek maidens by Sir Frederick Leighton.

I put it on the mantel-shelf, to stand out against the neutral background of the olive-green and blue-tinted wall-paper, and it becomes at once a different thing. I step back three paces into the room, to survey the effect, and I see at a glance that the oriental red *is* a decoration, while the European purple and green and cream-color is *not*. The one stands out definite in hue and shade against the wall behind, showing off all the simple beauty it possesses to the very best advantage ; the other merges into a confused mass of points and colors, having no individuality of its own, and wholly failing to compose an element in the picture as a whole. You could not enter the room without at once catching and comprehending the meaning of the little red vase ; you must look at the piece of Sèvres porcelain with a close and critical eye before you begin to observe its good points. No doubt the Parisian product is a triumph of art in its own way ; but it certainly is not a decorative decoration.

These two examples typify very fairly what decoration actually is, and what it ought to be. Most people are quite content to look at any pretty thing they happen to see in a shop, and because it pleases them when so looked at, to buy it forthwith, never stopping to inquire what effect it will have as part of a room. That is the reason why most of our houses are mere rough and tumble collections of stray objects, pretty or otherwise, with very little idea of arrangement, and with no general or intelligible effect. It is seldom, indeed, that we enter a room which we can take in and comprehend as a whole at a single glance. Yet that ought to be the end and aim of all our decorative efforts, the object which we should keep in mind in furnishing our houses, so far as the desire to please or to ornament enters at all into our plan. Of course I admit that our first object must be to secure shelter, warmth, and air, to have beds, tables, chairs, and carpets ; but in so much as we wish to make these pretty, and not merely and simply utilitarian, we should reasonably be guided by a sense of general effect, not of separate and individual prettiness. The rooms which most people most instinctively admire are those in which carpet, dado, paper, and ceiling make a harmonious and consistent framework, and in which chairs, tables, couches, beds, or decorations fall each into their proper place as parts of the general picture. Such a room as this needs no separate study of all its parts in order to see its prettiness ; the eye takes it all in at once as a continuous and comprehensible whole, at a single sweep.

Many people say that this is a mere matter of taste : that one person will admire one style of room, while others admire the exact opposite. No doubt the objection is true up to a certain point ; but I believe as a rule nine people out of ten will admire an artistically arranged and harmonious house, when they see it, far more than a mere scratch collection of odds and ends such as we usually find in the average English home. They may not have originality or æsthetic initiative enough to invent such a house for themselves ; but the moment they are shown one which somebody else has had the wit to contrive,

they are both surprised and delighted with it. I have known utter Philistines, like the Jones's of Cottonopolis, who said beforehand, "I'm sure I shan't admire Mr. Cimabue Jenkins's style; his taste is too high and dismal for me;" but when they have been to one of Mr. Cimabue Jenkins's "at-homes," they come away enchanted, saying to one another, "Well, Mrs. Jones, we shall sell all our old furniture, and do the house up again in that æsthetic fashion, as they call it, this very week."

I have a friend at Oxford whose rooms are perhaps the prettiest I ever saw. I have turned them into a sort of illustrative museum of domestic decoration by taking all my other friends to see them. Most of them say before they go, "I don't think I shall like them;" but all of them say when they come away, "I never saw anything so charming in my life." Look at the way in which everybody jumped at the new and really decorative styles in wall-papers, and textile fabrics for furniture, and good honest wooden tables, the moment a small group of artists began to design such things for them. I believe most people have not creativeness enough to make good patterns for themselves; but they have taste enough to know and admire a good pattern when they see it. You need not be a Mozart, or a Beethoven, or a Mendelssohn, in order to appreciate a Twelfth Mass or a Sonata in B flat.

In all our greater artistic work we, in Western Europe, have long recognized the fundamental principle that ornamentation must be subordinated to general effect, and that, however pretty a piece of detailed work may be in itself, it can only be admitted if it helps on, or at least does not detract from, the excellence of the whole. It is this that makes the main difference between oriental and western architecture. Look at the gorgeous Hindoo temples, or even at Mohammedan mosques, like the Taj at Agra. You will see in the eastern buildings whole sides of a quadrangle filled up with marble lattice-work, all fretted into minute and delicate lace-like patterns. This lattice-work is exquisite of its kind, and it produces a sense of high artistic pleasure even in the most cultivated mind. But if you stand back a little, and look at the various parts of

the whole, you will see that the dainty tracery is quite lost in a general view. All that artistic labor has been expended, not on the principal constructive points of the building, but on the mere interspaces; and so it fails entirely of distant effect. On the other hand, look at the tower and doorway of Ifley Church. All the flat interspaces consist of plain unornamented stonework; but the arches of the portal are deeply recessed, and richly cut with dog-tooth mouldings; the windows are decorated with similar ornaments; the corners, the battlements, the string-courses are all marked with finer and more conspicuous detail. Here there is no waste of decoration where it will not be noticed; every piece of minute mason-work is expended upon some point of constructive importance, so that it helps us at once to grasp and comprehend the whole meaning and plan of the architect, without being distracted from the main purpose by petty and non-significant details.

This same principle can be applied to almost all buildings as a rough test of relative æsthetic development. The tiny Benares temples are most of them mere detail, and nothing else. They are each a simple chaos of admirable carving, without any general design at all. The Taj and the other best Mohammedan works of Agra and Delhi have very distinct and beautiful designs, and the chief architectural points are well brought out; but still a vast mass of the minor and intricate carving is lost in the general view and only comes out when looked at piecemeal. The Parthenon and the Maison Carrée of Nîmes represent the opposite pole; there only the constructive points are decorated, while the backgrounds are left quite plain. But the Hellenic model, if it fails at all, fails in its extreme simplicity, in the too great purity of its style, and the want of sufficient points of interest. Mediæval architecture combines the special beauties of each; it lavishes detailed decoration as freely as the Hindoos, but it restricts its richest work to the bringing out of the main design as rigidly as the Greeks. Lincoln Minster or Chartres will give one a good subject for comparison with the Taj on the one hand, and the Theseum on the other.

Again, contrast Milan with Salisbury

Cathedral. It may seem shockingly irreverent to say so, but I have always fancied Milan, with all its wondrous spires and pinnacles and twirligigs, was, after all, but a glorified and idealized wedding-cake—the gorgeous dream of an artistic confectioner with a taste for building up that curious fret-work in white sugar and caramel which decorates the front window of the pastry-cook's shop. It is the apotheosis of confectionery, no doubt; but I am compelled to admit, confectionery none the less. As you gaze up at it, or down upon it from its own top, you fail to get any one intelligent idea of its drift. However you take it, it remains a wilderness of stonework, reducing your mind to a maze and a haze, through which innumerable points and peaks loom up indistinguishably, and fade into others yet beyond them. On the other hand, go into the neat and green little close of Salisbury, take your stand at the northwest corner (or, for the matter of that, at any other point where the Dean and Chapter will permit you), and look up at the building in all its perfect unity and simplicity. To my mind you will not find a more complete and self-contained cathedral in all Europe. It is not large, it is not even very notable in style, at least as far as peculiarities and technical *tours de force* go; but it forms a single beautiful picture, harmonious throughout, and bound together by the tie of a general conception to which all details have been duly subordinated. Peterborough is nothing but a west front with three magnificent doorways; Westminster Abbey is two fine but incongruous pieces of architecture, grafted inartistically upon one another; but Salisbury is a whole cathedral, with a plan and a central idea, to be grasped at once by eye and mind as readily as a Hellenic temple, yet adorned with all the richness and variety of mediæval workmanship.

In our larger architectural and decorative schemes, as I said before, we have fully mastered this first principle of design—to have a notion and stick to it. It is only in our houses that we have failed to perceive its applicability. And I think we may set down the failure to two causes: the first is undue ambition; the second is neglect of the principle of relief.

Ambition shows itself most in the desire for big pictures, good or bad, in heavy gilt frames, and for products of the very highest art, or where these cannot be afforded, travesties of them in coarse execution. Now we ought never to forget that all pictorial art was in its origin purely decorative. The paintings on an Egyptian tomb or palace formed part of the architectural design; and we can get the best idea of their true import by visiting the admirable restorations at the Crystal Palace, where one can see the thorough subordination of the painter to the architect. The columns and capitals are covered with color; so are the walls and interspaces; but all the figures and subjects fall into their proper place in the total design as a whole. In like manner with Assyrian bas-reliefs; they are architectural compositions, not isolated specimens of plastic art. The frescos on a Pompeian villa, though freer in treatment, are similarly subordinated to the general decorative conception. It was the same in the early mediæval churches. They started from the Byzantine model, which we can still see represented in the style of the Greek church. Without moving from western Europe one may see excellent examples in the well-known Russian church in Paris, near the Parc Monceaux, in the memorial chapel to the Czarewitch at Nice, and in the little white building at Vevay, whose brand-new elegance contrasts not unpleasantly in a single *coup-d'œil* with the sombre grandeur of the heavy old tower of the parish church above. It is a striking enough style in its semi-barbaric way, with huge mosaic figures of conventionalized saints standing out in purple and green and violet against a massive background of solid gilding; and though it fatigues us with its glitter and grandeur, it is not without a gorgeous impressiveness of its own. From this purely decorative art mediæval Italian painting took its rise; and though it grew more and more untrammelled with every generation from Cimabue onward, it remained essentially decorative till the Renaissance. Giotto or Ghirlandajo did not paint a picture and then sell it to anybody who turned up, to stick in anywhere, however incongruous the place might be; they undertook to embellish

a particular church, and they painted particular square or semicircular or corner-wise frescos on the spot, for this, that, or the other individual nook or angle of the wall. Even the great Renaissance masters engaged themselves to cover a certain space of St. Peter's or the Vatican, and covered it with suitable designs accordingly. No doubt this was slavery for imitative art, but it had at least the result of making decoration truly decorative.

In process of time, however, as imitative art developed to its full freedom, it cast off entirely the trammels of its architectural and decorative uses. It became a thing-in-itself (not in the Kantian sense, of course), an end to be pursued apart from all idea of special purposes for the finished product. The man who got an inspiration wrought it out on canvas as seemed to him fittest, and then left it to the purchaser to place it amid congruous or incongruous surroundings as he would. Such a change was absolutely necessary, if imitative art was ever to become perfect and individualized. Recognizing, as we now do, that the truthful and exact representation of nature is, to say the least, one among the main ends of pictorial art, we must sacrifice to that end all the mere decorative prettinesses of broad and effective coloring, of mosaic-like gilding, and uniform backgrounds, of artificially symmetrical composition of balanced figures and hues and shapes. Whether we are entirely realistic, or whether, on the other hand, we allow somewhat to individual idealism and "spiritual insight"—for into this vexed question I do not wish to enter here—we all agree that close fidelity to nature is one of the chief aims of painting; and that any mode of production which interferes with that aim must be promptly suppressed. Hence we allow that it is best for our artists freely to choose their own subjects and represent them on their own scale, and in their own way, leaving the question of their ultimate destination to be settled at a later period by the person into whose possession the finished pictures may finally come.

This being so, we find ourselves face to face with a new difficulty; what is the best way of exhibiting, in public or private, the works of imitative art so pro-

duced as objects of intrinsic beauty. This difficulty could not, of course, crop up under the old system, where such works were produced as parts of a particular architectural whole; and though it seems rather far at first sight from the question of decorative decorations, I think a little consideration will show us its appositeness to the subject in hand.

Probably the ideally worst way of exhibiting pictures is that adopted in our Royal Academy, and in most galleries of painting, at home and abroad. Jumbled together in close proximity to one another, arranged for the most part according to size alone, with little reference to prevalent tone, subject, harmony, or contrast, and destitute of any background or relieving interspaces, the pictures become a mere waste of colored canvas, separated by wearying masses of gilt frame. I believe the well-known Academy headache is just as much due to the intense and unbroken stimulation of red, blue, and yellow pigments, together with the dazzling effect of continuous gilding, as to the constrained position of the neck, the constant alteration of focus and muscular adjustment in the eyes, and the mental effort of passing so rapidly from one subject of attention to another. All these things not only weary our nerves, but also detract largely from our critical appreciation of the paintings. Of course a gilt frame throws up the color of the picture better than anything else could do; but then, in order to produce its full effect, it requires to be isolated in the midst of a comparatively wide field of neutral or dark-tinted background, so that the picture may be viewed by itself, as it was painted, uninfluenced in tone by the interference of other and often discordant fields of color, introducing fresh and perhaps disturbing sentiments into the mind. Accordingly, I believe that for our developed imitative art, divorced as it so largely is from decorative intent, the best mode of exhibition would be one apart from domestic adjuncts, and with each canvas in comparatively complete isolation against a studied background. As this, however, would defeat the object for which most persons buy pictures—as domestic decorations—I think the next best thing would be to subordinate the room as far as possible to the pic-

tures, and to choose them as far as possible with an eye to their effect upon one another in juxtaposition. No doubt there are a few people who do this already ; but the vast majority of picture-buyers are quite capable of hanging a Derby Day by Mr. Frith close to a Madonna by Mr. Rossetti, and putting both against a background which makes even the first unnecessarily annoying to the eye.

I have been good-humoredly laughed at by a friendly critic for proposing that you should turn out Turner and David Cox because they would not harmonize with your coal-scuttle. Now, though this is an extreme way of putting the case, I am not sure that it is wholly wrong. After all, it is better at any rate to make your coal-scuttle harmonize with your Turner, and then to abstain from buying a David Cox unless it will go well with both. If the picture is to be used as a household decoration, care should at any rate be taken that it is relatively decorative. But most people go to a gallery, see a thing that pleases them, buy it indiscriminately, and then put it somewhere where it loses in effect itself, and spoils the effect of everything else about it. It seems to me that in this way the ambition to have pictures of some sort, because they are the highest form of our developed art, has largely prevented our decoration from working into natural lines. And considering how very few people can afford really good pictures, I think it would be better for most, except the very wealthy, to confine themselves to the lower but more manageable design of planning their homes decoratively with good effect. Thousands who can neither understand nor afford Botticellis and Pinturiccios can do this and do it well ; but their impulse has been set in the wrong direction, and they fail accordingly to produce anything æsthetic in any way.

So much for the first point, the dangers of ambition ; now a few words as to the second, the neglect of the principle of relief.

Æsthetic pleasure seems to consist for the most part in the due intermixture of stimulation and rest. If there is no stimulation there is no pleasure, but if the stimulation is too intense, sustained, and unbroken, the pleasure

rapidly gives way to fatigue. In ordinary circumstances, however, we have abundant opportunities of relief in the general dull or neutral background. Hence, what we usually call pretty things are those which yield us considerable visual stimulation (for I am confining myself here to visual beauty alone) in lustre, color, form, or detail. A glance at the commonly recognized beautiful objects in nature will show us the truth of this, for they are mostly such things as red, yellow, blue, pink, and orange flowers ; ruddy fruits and berries ; bright-colored butterflies, beetles, birds, and animals ; golden or other metallic plumes ; crystals, gems, and brilliant stones ; rainbows and sunset clouds ; autumn hues on the forest ; blue or purple seas ; green fields, red crags, white chalk cliffs, dazzling skies, and so forth. On the other hand, we do not think of brown earth, dingy roads, overcast and gloomy skies, desert sands, or dull seas as *in themselves* pretty, though they may become so by some effect of contrast or sentiment. In fact, stimulation of color, lustre, brilliancy, and light-and-shade forms the positive element of visual æsthetic feeling, whereas relief, or rest, gained by the intermediation of duller or neutral backgrounds, forms only its negative or relative element.

Accordingly, we usually call stimulating objects pretty, and that is the common-sense of the word in the mouths of all but a select artistic few. When average people want to buy anything they naturally buy a "pretty" thing, and they buy everything "pretty" alike. They know the end they want to produce, but they mistake the means necessary to produce it. So they get a pretty white paper, with bright bunches of red and blue flowers ; and a pretty piano with a piece of crimson silk facing let in behind its fretwork front ; and a pretty carpet with green and orange spots ; and a set of pretty chairs and couches, with light-blue satin coverings. They get still more color in their curtains and wool-work cushions, while they lavish a sea of gilding on their mirrors and cornices, besides running a little gold over the mouldings of the door and round the baseboard of the room. Then they stick in a lot of chandeliers with cut-glass

prisms and brilliants, a pair or so of glass and porcelain vases, an ormolu clock, and a few water-colors or family portraits in heavy gilt frames, with knobs and curls to bring out the gilding into full prominence. We can hardly wonder at them when we look at what greater authorities have done—at the jumbled mass of internal decoration in Exeter Cathedral, or at the glassy-looking, slippery, oily, over-polished, and glistening interior of the Albert Chapel at Windsor.

Now the error of all this consists in its neglect of the principle of relief. In order to produce an æsthetic effect you must have, not only a few pretty things, but also, if I may be allowed the expression, a great many ugly or neutral things. You must not make your bouquet consist entirely of tuberose and gladiolus; you must intersperse a little green foliage as well. You must not paint your picture all crimson and purple; you must have a bit of brown hillside and cloudy sky. The great secret of internal decoration consists in making the background into a background, and allowing your pretty things to come out against it by contrast. That is why everybody, or almost everybody, prefers (when once they have seen it) a neutral or retiring wall-paper to a white and gold pattern interspersed with casual bunches of red and green. You don't want your paper, to be pretty in the sense of stimulating; you want it to be restful, delicate, relieving. If you can make it rich in diapered fretwork as well, so much the better; but its first object must be to retire, not to obtrude itself on the eye. Then, having secured such a general background, your next object must be to choose such decorations as will show well against it. In short, while your relief should be relieving, your decorations should be decorative. It is not enough that they should be pretty separately, or when closely examined; they should be pretty then and there, as they stand, in conjunction with all their surroundings. It is the neglect of this condition which makes most of our rooms into a bedlam of conflicting objects; it is attention to it which alone can make them into harmonious and intelligible wholes.

As a rule, a great deal too much labor

is expended upon would-be ornamental products, and with very little artistic effect. Take, as a supreme and awful example, the old-fashioned Berlin wool-work. Look at all the time wasted in depicting and grounding those impossible bunches of patchwork roses, those ladies with square red blocks of woollen mosaic to represent their cheeks, those lap-dogs with lustreless eyes and rectangularly waving tails. Yet, incredible as it seems, human beings used to buy pieces of this work with the pattern already finished, and spend days in mechanically filling-in the black background. They paid work-girls for doing the only interesting part of the design, such as it was, to save themselves even the faint intellectual effort of counting the holes, and then contentedly reduced their individuality to the level of a steam power-loom to cover the remainder of the canvas with uniform lines of black stitches. Happily, crewel-work has now saved one half the British race from this depth of artistic degradation, and though they still buy their patterns ready traced, instead of honestly designing them for themselves, they do manage now to turn out something pretty in the end, and to make the result not wholly and ridiculously inadequate to the time spent over it. I have lately seen a beautiful brown holland dado, one of the most effective bits of decoration that I ever saw for people of moderate means. It consisted of a plain white strip of the simple material, unworked below, with a border about eighteen inches wide on top, worked in crewels with original designs of birds and water-plants, drawn in Japanese fashion, without reference to the artificial limits of the material. This piece of work was very rapidly wrought in outline merely, by a few deft-fingered girls, and yet it was fifty times more effective than a dozen antimacassars or table covers of the ordinary South Kensington type, which would have taken three times as long to make, and would not have had any of the spontaneity or originality of this pretty and clever dado.

Half our decorative work fails in just this same particular, that it lavishes labor without thinking of general effect. Vases are adorned with all kinds of quasi ornamental knobs and excrescences,

which take a great deal of time to make, and yet only succeed in spoiling the outline of what might otherwise have been a pretty form. Pictures are laboriously painted on porcelain or glass which would really look far better in uniform tints, or with simple parti-colored glazes. Legs of chairs and tables are turned into alternate bulbs and contractions when they would look much more solid and workmanlike with undecorated tapering or fluted stems. Chairs and sofas are contorted and agonized into the strangest wriggles, like dying serpents, all for the express purpose, apparently, of preventing their shape from being readily recognized by the eye in any position whatsoever. Mirrors are surmounted by curls and arabesques in gilt plaster of Paris, which generally mar the good effect of a simple square or canted rectangular frame. And all these curious uglifications—to borrow an expressive word from "Alice in Wonderland"—have been positively intended to beautify the objects upon which they are imposed. I have stood in a pottery or glass factory and actually seen a workman take a natural and pretty vase in its plastic condition and spoil it before my very eyes by crimping the lip, gaufering the neck, and adding a pair of bastard rococo handles to the two sides.

It will be said, no doubt, that most people like these things; that the taste for simple decorative objects, for relief, and for quiet arrangement, is confined to a very small number of people. I can hardly think so ill myself of the average taste. No doubt there are some people whose naturally strong and hearty nerves will enable them to stand so much stimulation as one gets in the ordinary blue and gold drawing-room, without fatigue. There is no more need to surround these strong-minded persons with decorations which they would never admire than there is need to compel all curry-loving and devilled-meat-eating Indian colonels to forswear sherry and Madeira, abandon kedgeriee and red peppers, and take to drinking

light hocks, eating *vol-au-vents* or smooth jellies, and smoking Turkish cigarettes after dinner, instead of their accustomed Havanas. But the vast majority of English people are really and unaffectedly charmed when they see a room prettily furnished, with due regard both to stimulation and relief. They allow at once that the effect is pleasant, and they are anxious to imitate it so far as they can. In most cases, the fact that their houses have been already furnished and decorated for them on the gilt mirror and blue satin principle, prevents them from adopting offhand the fashion they admire; but one often hears them say, "If ever I set up house afresh I shall get all my things in this new style." Then, again, there are others who like the old-fashioned glitter for association's sake, and find quiet papers and carpets "gloomy;" but these people often come round after a while and learn to admire what at first they disliked. Only the other day an old lady was looking with me into the windows of a good upholsterer's and praising the pretty textile fabrics and the beautiful pottery displayed in tasteful black cabinets. "It takes some time," she said, "to acquire a taste for things of this sort; but when one has acquired it they are so much more satisfying than the gilt absurdities we used to put into our rooms a few years ago." This is the feeling of thousands and thousands. They feel repelled at first by what they think the dulness and dinginess of restful backgrounds for decoration; but when they have learned how to arrange them, and how to bring in those bits of color and ornament for which the background is only a relief, they find the whole result a hundred times more satisfying than the old chaos of glitter and jingle. The astounding revolution in taste within the last ten years sufficiently shows that the world at large is delighted to be taught decorative principles when any one who understands them is willing to undertake the task.—*Cornhill Magazine.*

FICTION—FAIR AND FOUL.

BY JOHN RUSKIN.

IV.

I FEAR the editor of the *Nineteenth Century* will get little thanks from his readers for allowing so much space in closely successive numbers to my talk of old-fashioned men and things. I have, nevertheless, asked his indulgence, this time, for a note or two concerning yet older fashions, in order to bring into sharper clearness the leading outlines of literary fact which I ventured only in my last paper to secure in *silhouette*, obscurely asserting itself against the lime-light of recent moral creed, and fiction manufacture.

The Bishop of Manchester, on the occasion of the great Wordsworthian movement in that city for the enlargement, adornment, and sale of Thirlmere, observed, in his advocacy of these operations, that very few people, he supposed, had ever seen Thirlmere. His Lordship might have supposed, with greater felicity, that very few people had ever read Wordsworth. My own experience in that matter is that the amiable persons who call themselves "Wordsworthian" have read—usually a long time ago—"Lucy Gray," "The April Mornings," a picked sonnet or two, and the "Ode on the Intimations," which last they seem generally to be under the impression that nobody else has ever met with; and my further experience of these sentimental students is that they are seldom inclined to put in practice a single syllable of the advice tendered them by their model poet.

Now, as I happen myself to have used Wordsworth as a daily text-book from youth to age, and have lived, moreover, in all essential points according to the tenor of his teaching, it was matter of some mortification to me when, at Oxford, I tried to get the memory of Mr. Wilkinson's spade honored by some practical spadework at Ferry Hincksey, to find that no other tutor in Oxford could see the slightest good or meaning in what I was about; and that although my friend Professor Rolleston occasionally sought the shades of our Rydalian laurels with expressions of

admiration, his professional manner of "from pastoral graves extracting thoughts divine" was to fill the Oxford Museum with the scabbed skulls of plague-struck cretins.

I therefore respectfully venture to intimate to my bucolic friends that I know, more vitally by far than they, what *is* in Wordsworth, and what is not. Any man who chooses to live by his precepts will thankfully find in them a beauty and rightness (*exquisite* rightness I called it, in "Sesame and Lilies") which will preserve him alike from mean pleasure, vain hope, and guilty deed: so that he will neither mourn at the gate of the fields which with covetous spirit he sold, nor drink of the waters which with yet more covetous spirit he stole, nor devour the bread of the poor in secret, nor set on his guest-table the poor man's lamb—in all these homely virtues and assured justices let him be Wordsworth's true disciple; and he will then be able with equanimity to hear it said, when there is need to say so, that his excellent master often wrote verses that were not musical, and sometimes expressed opinions that were not profound.

And the need to say so becomes imperative when the unfinished verse, and uncorrected fancy, are advanced by the affection of his disciples into places of authority where they give countenance to the popular national prejudices from the infection of which, in most cases, they themselves sprang.

Take, for example, the following three and a half lines of the 38th Ecclesiastical Sonnet:

"Amazement strikes the crowd; while many
turn
Their eyes away in sorrow, others burn
With scorn, invoking a vindictive ban
From outraged Nature."

The first quite evident character of these lines is that they are extremely bad iambs—as ill-constructed as they are unmelodious, the turning and burning being at the wrong ends of them, and the ends themselves put just when the sentence is in its middle.

But a graver fault of these three and a half lines is that the amazement, the turning, the burning, and the banning, are all alike fictitious; and foul-fictitious, calumniously conceived no less than falsely. Not one of the spectators of the scene referred to was in reality amazed—not one contemptuous, not one maledictory. It is only our gentle minstrel of the meres who sits in the seat of the scornful—only the hermit of Rydal Mount who invokes the malison of Nature.

What the scene verily was, and how witnessed, it will not take long to tell; nor will the tale be useless: but I must first refer the reader to a period preceding, by nearly a century, the great symbolic action under the porch of St. Mark's.

The Protestant ecclesiastic, and infidel historian, who delight to prop their pride, or edge their malice, in unveiling the corruption through which Christianity has passed, should study in every fragment of authentic record which the fury of their age has left the lives of the three queens of the Priesthood, Theodora, Marozia and Matilda, and the foundation of the merciless power of the popes by the monk Hildebrand. And if there be any of us who would satisfy with nobler food than the catastrophes of the stage, the awe at what is marvellous in human sorrow which makes sacred the fountain of tears in authentic tragedy, let them follow, pace by pace, and pang by pang, the humiliation of the fourth Henry at Canossa, and his death in the church he had built to the Virgin at Spire.

His antagonist, Hildebrand, died twenty years before him; captive to the Normans in Salerno, having seen the Rome in which he had proclaimed his principedom over all the earth, laid in her last ruin; and forever. Rome herself, since her desolation by Guiscard, has been only a grave and a wilderness*—what we call Rome is a mere colony of the stranger in her "Field of Mars." This destruction of Rome by the Normans is accurately and utterly the end of her Capitoline and wolf-suckled power; and from that day her Leonine or

Christian power takes its throne in the Leonine city, sanctified in tradition by its prayer of safety for the Saxon Borgo, in which the childhood of our own Alfred had been trained.

And from this date forward (recollected broadly as 1090, the year of the birth of St. Bernard), no longer oppressed by the remnants of Roman death—Christian faith, chivalry, and art possess the world, and recreate it, through the space of four hundred years—the twelfth, thirteenth, fourteenth, and fifteenth centuries.

And, necessarily, in the first of these centuries comes the main debate between the powers of Monk and Knight which was reconciled in this scene under the porch of St. Mark's.

That debate was brought to its crisis and issue by the birth of the new third elemental force of the State—the Citizen. Sismondi's republican enthusiasm does not permit him to recognize the essential character of this power. He speaks always of the Republics and the liberties of Italy as if a craftsman differed from a knight only in political privileges, and as if his special virtue consisted in rendering obedience to no master. But the strength of the great cities of Italy was no more republican than that of her monasteries or fortresses. The Craftsman of Milan, Sailor of Pisa, and Merchant of Venice are all of them essentially different persons from the soldier and the anchorite; but the city, under the banner of its *caroccio*, and the command of its *podesta*, was disciplined far more strictly than any wandering military squadron by its leader, or any lower order of monks under their abbot. In the founding of civic constitutions the Lord of the city is usually its Bishop; and it is curious to hear the republican historian—who, however in judgment blind, is never in heart uncandid—prepare to close his record of the ten years' war of Como with Milan, with this summary of distress to the heroic mountaineers—that "they had lost their Bishop Guido, who was their soul."

I perceive for quite one of the most hopeless of the many difficulties which Modernism finds, and will find, insuperable either by steam or dynamite, that of either wedging or welding into its own

* "Childe Harold," iv. 79; compare "Adonais" and "Sismondi," vol. i. p. 148.

cast-iron head any conception of a king, monk, or townsman of the twelfth and two succeeding centuries. And yet no syllable of the utterance, no fragment of the arts of the middle ages, far less any motive of their deeds, can be read even in the letter—how much less judged in spirit—unless, first of all, we can somewhat imagine all these three living souls.

First, a king who was the best knight in his kingdom, and on whose own swordstrokes hung the fate of Christendom. A king such as Henry the Fowler, the first and third Edwards of England, the Bruce of Scotland, and this Frederic the First of Germany.

Secondly, a monk who had been trained from youth in greater hardship than any soldier, and had learned at last to desire no other life than one of hardship—a man believing in his own and his fellows' immortality, in the aiding powers of angels, and the eternal presence of God; versed in all the science, graceful in all the literature, cognizant of all the policy of his age, and fearless of any created thing, on the earth or under it.

And, lastly, a craftsman absolutely master of his craft, and taking such pride in the exercise of it as all healthy souls take in putting forth their personal powers; proud also of his city and his people; enriching, year by year, their streets with loftier buildings, their treasuries with rare possession; and bequeathing his hereditary art to a line of successive masters, by whose tact of race, and honor of effort, the essential skills of metal-work in gold and steel, of pottery, glass-painting, woodwork, and weaving, were carried to a perfectness never to be surpassed; and of which our utmost modern hope is to produce a not instantly detected imitation.

These three kinds of persons, I repeat, we have to conceive before we can understand any single event of the Middle Ages. For all that is enduring in them was done by men such as these. History, indeed, records twenty undoings for one deed, twenty desolations for one redemption; and thinks the fool and villain potent as the wise and true. But Nature and her laws recognize only the noble; generations of the cruel pass, like the darkness of locust plagues, while

one loving and brave heart establishes a nation.

I give the character of Barbarossa in the woods of Sismondi, a man sparing in the praise of emperors:

"The death of Frederic was mourned even by the cities which so long had been the objects of his hostility and the victims of his vengeance. All the Lombards—even the Milanese—acknowledged his rare courage, his constancy in misfortune—his generosity in conquest.

"An intimate conviction of the justice of his cause had often rendered him cruel, even to ferocity, against those who still resisted; but after victory he took vengeance only on senseless walls; and, irritated as he had been by the people of Milan, Crema, and Tortona, and whatever blood he had shed during battle, he never sullied his triumph by odious punishments. In spite of the treason which he on one occasion used against Alessandria, his promises were in general respected; and when, after the peace of Constance, the towns which had been most inveterately hostile to him received him within their walls, they had no need to guard against any attempt on his part to suppress the privileges he had once recognized."

My own estimate of Frederic's character would be scarcely so favorable; it is the only point of history on which I have doubted the authority even of my own master, Carlyle. But I am concerned here only with the actualities of his wars in Italy, with the people of her cities, and the head of her religion.

Frederic of Suabia, direct heir of the Ghibelline rights, while nearly related by blood to the Guelph houses of Bavaria and Saxony, was elected emperor almost in the exact middle of the twelfth century (1152). He was called into Italy by the voices of Italians. The then Pope, Eugenius III., invoked his aid against the Roman people under Arnold of Brescia. The people of Lodi prayed his protection against the tyrannies of Milan.

Frederic entered the plain of Verona in 1154, by the valley of the Adige—ravaged the territory of Milan—pillaged and burned Tortona, Asti, and Chieri—kept his Christmas at Novara; marched on Rome—delivered up Ar-

nold to the Pope* (who, instantly killing him, ended for that time Protestant reforms in Italy)—destroyed Spoleto; and returned by Verona, having scorched his path through Italy like a level thunderbolt along the ground.

Three years afterward Adrian died; and, chiefly by the love and will of the Roman people, Roland of Siena was raised to the papal throne, under the name of Alexander III. The conclave of cardinals chose another Pope, Victor III.; Frederic on his second invasion of Italy (1158) summoned both elected heads of the Church to receive judgment of their claims before him.

The Cardinals' Pope, Victor, obeyed. The people's, Alexander, refused, answering that the successor of St. Peter submitted himself to the judgment neither of emperors nor councils.

The spirit of modern prelacy may perhaps have rendered it impossible for an English churchman to conceive this answer as other than that of insolence and hypocrisy. But a faithful pope, and worthy of his throne, could answer no otherwise. Frederic of course at once confirmed the claims of his rival; the German bishops and Italian cardinals in council at Pavia joined their powers to the emperor's, and Alexander, driven from Rome, wandered—unsubdued in soul—from city to city, taking refuge at last in France.

Meantime, in 1159, Frederic took and destroyed Crema, having first bound its hostages to his machines of war. In 1161 Milan submitted to his mercy, and he decreed that her name should perish. Only a few pillars of a Roman temple, and the church of St. Ambrose, remain to us of the ancient city. Warned by her destruction, Verona, Vicenza, Padua, Treviso, and Venice joined in the vow—called of the Lombard League—to reduce the emperor's power within its just limits. And, in 1164, Alexander, under the protection of Louis VII. of France and Henry II. of England, returned to Rome, and was received at Ostia by its senate, clergy, and people.

Three years afterward Frederic again swept down on the Campagna; attacked

the Leonine city, where the basilica of the Vatican, changed into a fortress, and held by the Pope's guard, resisted his assault until, by the emperor's order, fire was set to the Church of St. Mary of Pity.

The Leonine city was taken; the Pope retired to the Coliseum, whence, uttering once again his fixed defiance of the emperor, but fearing treachery, he fled in disguise down the Tiber to the sea, and sought asylum at Benevento.

The German army encamped round Rome in August of 1166, with the sign before their eyes of the ruins of the church of Our Lady of Pity. The marsh-fever struck them—killed the emperor's cousin, Frederic of Rothenburg, the Duke of Bavaria, the Archbishop of Cologne, the Bishops of Liège, Spire, Ratisbonne, and Verden, and two thousand knights; the common dead were uncounted. The emperor gathered the wreck of his army together, retreated on Lombardy, quartered his soldiery at Pavia, and escaped in secret over the Mont Cenis with thirty knights.

No places of strength remained to him south of the Alps but Pavia and Montferrat; and to hold these in check, and command the plains of Piedmont, the Lombard League built the fortress city, which, from the Pope, who had maintained through all adversity the authority of his throne, and the cause of the Italian people, they named "Alessandria."

Against this bulwark the emperor, still indomitable, dashed with his utmost regathered strength after eight years of pause, and in the temper in which men set their souls on a single stake. All had been lost in his last war except his honor—in this he lost his honor also. Whatever may be the just estimate of the other elements of his character, he is unquestionably, among the knights of his time, notable in impiety. In the battle of Cassano he broke through the Milanese vanguard to their *caroccio*, and struck down with his own hand its golden crucifix; two years afterward its cross and standard were bowed before him—and in vain.* He fearlessly claims

* Adrian the Fourth. Eugenius died in the previous year.

* "All the multitude threw themselves on their knees, praying mercy in the name of the crosses they bore; the Count of Blandrata took a cross from the enemies with whom he had served, and fell at the foot of the throne, pray-

for himself right of decision between contending popes, and camps against the rightful one on the ashes of the Church of the Virgin.

Foiled in his first assault on Alessandria, detained before it through the inundations of the winter, and threatened by the army of the League in the spring, he announced a truce to the besieged, that they might keep Good Friday. Then violating alike the day's sanctity and his own oath, he attacked the trusting city through a secretly completed mine. And, for a second time, the verdict of God went forth against him. Every man who had obtained entrance within the city was slain or cast from its ramparts; the Alessandrines threw all their gates open—fell, with the broken fugitives, on the investing troops, scattered them in disorder, and burned their towers of attack. The emperor gathered their remains into Pavia on Easter Sunday—spared in his defeat by the army of the League.

And yet, once more, he brought his cause to combat-trial. Temporizing at Lodi with the Pope's legate, he assembled, under the Archbishop of Magdeburg and Cologne, and the chief prelates and princes of Germany, a seventh army; brought it down to Como across the Splügen, put himself there at its head, and in the early spring of 1176, the fifteenth year since he had decreed the effacing of the name of Milan, was met at Legnano by the spectre of Milan.

Risen from her grave, she led the Lombard League in this final battle. Three hundred of her nobles guarded her *caroccio*; nine hundred of her knights bound themselves—under the name of the Cohort of Death—to win for her, or to die.

The field of battle is in the midst of the plain, now covered with maize and mulberry trees, from which the traveller entering Italy by the Lago Maggiore, sees first the unbroken snows of the Rosa behind him, and the white pinna-

cles of Milan Cathedral in the south. The emperor, as was his wont, himself led his charging chivalry. The Milanese knelt as it came—prayed aloud to God, St. Peter, and St. Ambrose—then advanced round their *caroccio* on foot. The emperor's charge broke through their ranks nearly up to their standard—then the Cohort of Death rode against him.

And all his battle changed before them into flight. For the first time in stricken field the imperial standard fell, and was taken. The Milanese followed the broken host until their swords were weary; and the emperor, struck fighting from his horse, was left, lost among the dead. The empress, whose mercy to Milan he had forbidden, already wore mourning for him in Pavia, when her husband came, solitary and suppliant, to its gate.

The lesson at last sufficed, and Barbarossa sent his heretic bishops to ask forgiveness of the Pope, and peace from the Lombards.

Pardon and peace were granted—without conditions. "Caesar's successor" had been the blight of Italy for a quarter of a century; he had ravaged her harvests, burned her cities, decimated her children with famine, her young men with the sword; and, seven times over, in renewed invasion, sought to establish dominion over her, from the Alps to the rock of Scylla.

She asked of him no restitution; coveted no province—demanded no fortress, of his land. Neither coward nor robber, she disdained alike guard and gain upon her frontiers; she counted no compensation for her sorrow, and set no price upon the souls of her dead. She stood in the porch of her brightest temple—between the blue plains of her earth and sea, and, in the person of her spiritual father, gave her enemy pardon.

"Black demons hovering o'er his mitred head," think you, gentle sonneteer of the daffodil-marsh? And have Barbarossa's race been taught of better angels how to bear themselves to a conquered emperor—or England, or by braver and more generous impulses, how to protect his exiled son?

The fall of Venice, since that day, was measured by Byron in a single line:

ing for mercy to them. All the court and the witnessing army were in tears—the emperor alone showed no sign of emotion. Distrusting his wife's sensibility, he had forbidden her presence at the ceremony; the Milanese, unable to approach her, threw toward her windows the crosses they carried, to plead for them."—Sismondi (French edition), vol. i. p. 378.

"An Emperor tramples where an emperor knelt."

But what words shall measure the darker humiliation of the German pillaging his helpless enemy, and England leaving her ally under the savage's spear?

With the clues now given, and an hour or two's additional reading of any standard historian he pleases, the reader may judge on secure grounds whether the truce of Venice and peace of Constance were of the devil's making; whereof whatever he may ultimately feel or affirm, this at least he will please note for positive, that Mr. Wordsworth, having no shadow of doubt of the complete wisdom of every idea that comes into his own head, writes down in dogmatic sonnet his first impression of black instrumentality in the business; so that his innocent readers, taking him for their sole master, far from caring to inquire into the thing more deeply, may remain even unconscious that it is disputable, and forever incapable of conceiving either a Catholic's feeling, or a careful historian's hesitation, touching the centrally momentous crisis of power in all the Middle Ages! Whereas Byron, knowing the history thoroughly, and judging of Catholicism with an honest and open heart, ventures to assert nothing that admits of debate, either concerning human motives or angelic presences; but binds into one line of massive melody the unerringly counted sum of Venetian majesty and shame.

In a future paper I propose examining his method of dealing with the debate, itself on a higher issue; and will therefore close the present one by trampling a few of the briars and thorns of popular offence out of our way.

The common counts against Byron are in the main three.

1. That he confessed—in some sort even proclaimed defiantly (which is a proud man's natural manner of confession)*—the naughtiness of his life.

The hypocrisy† even of Pall Mall

* The most noble and tender confession is in Allegra's epitaph, "I shall go to her, but she shall not return to me."

† Hypocrisy is too good a word for either Pall Mall or Trianon, being justly applied (as always in the New Testament) only to men whose false religion has become earnest, and a part of their being; so that they compass heaven and earth to make a proselyte. There

and Petit Trianon does not, I assume, and dares not, go so far as to condemn the naughtiness itself? And that he *did* confess it, is precisely the reason for reading him by his own motto "Trust Byron." You always may; and the common smooth-countenanced man of the world is guiltier in the precise measure of your higher esteem for him.

II. That he wrote about pretty things which ought never to be heard of.

In the presence of the exact proprieties of modern Fiction, Art, and Drama, I am shy of touching on the question of what should be mentioned, and seen—and should not. All that I care to say here is that Byron tells you of realities, and that their being pretty ones is, to my mind—at the first (literally) blush, of the matter, rather in his favor. If, however, you have imagined that he means you to think Duda as pretty as Myrrha,* or even Haidee, whether in full dress or none, as pretty as Marina, it is your fault, not his.

III. That he blasphemed God and the King.

Before replying to this count I must ask the reader's patience in a piece of very serious work—the ascertainment of the real and full meaning of the word blasphemy. It signifies simply "harmful speaking"—Male-diction—or* shortly "Blame;" and may be committed as much against a child or a dog, if you *desire* to hurt them, as against the Deity. And it is, in its original use, accurately opposed to another Greek word, "Euphemy," which means a reverent and

is no relation between minds of this order and those of common rogues. Neither Tartuffe nor Joseph Surface are hypocrites—they are simply impostors; but many of the most earnest preachers in all existing churches are hypocrites in the highest; and the Tartuffe-Squidom and Joseph Surface-Masterhood of our virtuous England, which build churches and pay priests to keep their peasants and hands peaceable, so that rents and per cents may be spent, unnoticed, in the debaucheries of the metropolis, are darker forms of imposture than either heaven or earth have yet been compassed by; and what they are to end in, heaven and earth only know. Compare again, "Island," ii. 4, "the prayers of Abel linked to deeds of Cain," and "Juan," viii. 25, 26.

* Perhaps some even of the attentive readers of Byron may not have observed the choice of the three names—Myrrha (bitter incense), Marina (sea lady), Angiolina (little angel)—in relation to the plots of the three plays.

loving manner of benediction—fallen entirely into disuse in modern sentiment and language.

Now the compass and character of essential Malediction, so-called in Latin, or Blasphemy, so-called in Greek, may, I think, be best explained to the general reader by an instance in a very little thing, first translating the short pieces of Plato which best show the meaning of the word in codes of Greek morality.

"These are the things then" (the true order of the Sun, Moon, and Planets), "oh, my friends, of which I desire that all our citizens and youths should learn at least so much concerning the Gods of Heaven as not to blaspheme concerning them, but to eupheme reverently, both in sacrificing, and in every prayer they pray."—*Laws*, VII. Steph. 821.

"And through the whole of life, beyond all other need for it, there is need of Euphemy from a man to his parents, for there is no heavier punishment than that of light and winged words" (to them)? "for Nemesis, the angel of Divine Recompense, has been throned Bishop over all men who sin in such manner."—IV. Steph. 717.

The word which I have translated "recompense" is more strictly that "heavenly Justice"—the proper Light of the world, from which nothing can be hidden, and by which all who will may walk securely; whence the mystic answer of Ulysses to his son, as Athena, herself invisible, walks with them, filling the chamber of the house with light, "This is the justice of the Gods who possess Olympus." See the context in reference to which Plato quotes the line.—*Laws*, X. Steph. 904. The little story that I have to tell is significant chiefly in connection with the second passage of Plato above quoted.

I have elsewhere mentioned that I was a homebred boy, and that as my mother diligently and scrupulously taught me my Bible and Latin Grammar, so my father fondly and devotedly taught me my Scott, my Pope, and my Byron.*

* I shall have lost my wits very finally when I forget the first time that I pleased my father with a couplet of English verse (after many a year of trials); and the radiant joy on his face as he declared, reading it aloud to my mother with emphasis half choked by tears, that "it was as fine as anything that Pope or Byron ever wrote!"

The Latin grammar out of which my mother taught me was the 11th edition of Alexander Adam's—(Edinb. : Bell and Bradfute, 1823)—namely, that Alexander Adam, Rector of Edinburgh High School, into whose upper class Scott passed in October, 1782, and who—previous masters having found nothing noticeable in the heavy-looking lad—*did* find sterling qualities in him, and "would constantly refer to him for dates, and particulars of battles, and other remarkable events alluded to in Horace, or *whatever other authors the boys were reading*; and called him the historian of his class." (L. i. 126). That Alexander Adam, also, who, himself a loving historian, remembered the fate of every boy at his school during the fifty years he had headed it, and whose last words—"It grows dark, the boys may dismiss"—gave to Scott's heart the vision and the audit of the death of Elspeth of the Craighurn-foot.

Strangely, in opening the old volume at this moment (I would not give it for an illuminated missal) I find, in its article on Prosody, some things extremely useful to me, which I have been hunting for in vain through Zumpt and Matthiæ. In all rational respects I believe it to be the best Latin Grammar that has yet been written.

When my mother had carried me through it as far as the syntax, it was thought desirable that I should be put under a master; and the master chosen was a deeply and deservedly honored clergyman, the Rev. Thomas Dale, mentioned in Mr. Holbeach's article, "The New Fiction" (*Contemporary Review* for February of this year), together with Mr. Melville, who was our pastor after Mr. Dale went to St. Pancras.

On the first day when I went to take my seat in Mr. Dale's school-room I carried my old grammar to him, in a modest pride, expecting some encouragement and honor for the accuracy with which I could repeat, on demand, some hundred and sixty closely-printed pages of it.

But Mr. Dale threw it back to me with a fierce bang upon his desk, saying (with accent and look of seven-times-heated scorn), "That's a *Scotch* thing."

Now my father being Scotch, and an Edinburgh High School boy, and my

mother having labored in that book with me since I could read, and all my happiest holiday time having been spent on the North Inch of Perth, these four words, with the action accompanying them, contained as much insult, pain, and loosening of my respect for my parents, love of my father's country, and honor for its worthies, as it was possible to compress into four syllables and an ill-mannered gesture. Which were therefore pure, doubled-edged and point-envenomed blasphemy. For to make a boy despise his mother's care is the straightest way to make him also despise his Redeemer's voice; and to make him scorn his father and his father's house, the straightest way to make him deny his God, and his God's heaven.

I speak, observe, in this instance, only of the actual words and their effect; not of the feeling in the speaker's mind, which was almost playful, though his words, tainted with extremity of pride, were such light ones as men shall give account of at the Day of Judgment. The real sin of blasphemy is not in the saying nor even in the thinking; but in the wishing which is father to thought and word; and the nature of it is simply in wishing evil to anything; for as the quality of Mercy is not strained, so neither that of Blasphemy, the one distilling from the clouds of heaven, the other from the steam of the Pit. He that is unjust in little is unjust in much, he that is malignant to the least is to the greatest, he who hates the earth which is God's footstool, hates yet more heaven which is God's throne, and him that sitteth thereon. Finally, therefore, blasphemy is wishing ill to *any* thing; and its outcome is in Vanni Fucci's extreme "ill manners"—wishing ill to God.

On the contrary, Euphemy is wishing well to everything, and its outcome is in Burns's extreme "good manners," wishing well to—

"Ah! wad ye tak a thought, and men"!

That is the supreme of Euphemy.

Fix, then, first in your minds that the sin of malediction, whether Shimei's individual, or John Bull's national, is in the vulgar malignity, not in the vulgar diction, and then note further that the "phemy" or "fame" of the two words,

blasphemy and euphemy, signifies broadly the bearing of *false* witness *against* one's neighbor in the one case, and of *true* witness *for* him in the other; so that while the peculiar province of the blasphemer is to throw firelight on the evil in good persons, the province of the euphuist (I must use the word inaccurately for want of a better) is to throw sunlight on the good in bad ones; such, for instance, as Bertram, Meg Merrilies, Rob Roy, Robin Hood, and the general run of Corsairs, Giaours, Turks, Jews, Infidels, and Heretics; nay, even sisters of Rahab, and daughters of Moab and Ammon; and at last the whole spiritual race of him to whom it was said, "If thou doest well, shalt thou not be accepted?"

And being thus brought back to our actual subject, I purpose, after a few more summary notes on the lustre of the electrotpe language of modern passion, to examine what facts or probabilities lie at the root both of Goethe's and Byron's imagination of that contest between the powers of good and evil, of which the Scriptural account appears to Mr. Huxley so inconsistent with the recognized laws of political economy; and has been, by the cowardice of our old translators, so maimed of its vitality that the frank Greek assertion of St. Michael's not daring to blaspheme the devil* is tenfold more mischievously deadened and caricatured by their periphrasis of "durst not bring against him a railing accusation" than by Byron's apparently—and only apparently—less reverent description of the manner of angelic encounter for an inferior ruler of the people.

"Between His Darkness and His Brightness
There passed a mutual glance of great politeness."

PARIS, September 20, 1880.

The Nineteenth Century.

* Of our tingle-tangle-titmouse disputes in Parliament like Robbins in a bush, but not a Robin in all the house knowing his great A, hear again Plato: "But they, forever so little a quarrel, uttering much voice, blaspheming, speak evil one of another—and it is not becoming that in a city of well-ordered persons, such things should be—no; nothing of them nohow nowhere—and let this be the one law for all—let nobody speak mischief of anybody (*μηδὲνα κακηγορεῖτω μηδὲς*)."—Laws, Book ii. §. 935; and compare Book iv. 117.

TREVELYAN'S "EARLY HISTORY OF CHARLES JAMES FOX."*

FEW men will read this book without a conviction that its author could, if he chose, complete his uncle Lord Macaulay's work, and make the small sum of English pleasures greater, by carrying that brilliant history of England down from the death of William III. to the accession of Queen Victoria. He has every qualification for the task. He understands men—witness the vivid sketch of Charles Yorke, the man who could not refuse a brilliant bribe, yet could not live under the shame of taking it—he can indicate manners, he knows facts, and he can describe them all in a style which, though it compels a comparison with Lord Macaulay's, is his own, and is, in a long volume, more attractive. It is like his uncle's, but though equally lucid and bright, it is devoid of the metallic, or rather vitreous, glitter which, in any lengthy work, made Lord Macaulay's antithetic sentences at last painful to the understanding. Mr. Trevelyan's style, rapid, allusive, and sometimes antithetical as it is, has in it the great qualities of repose and variety; it flows, instead of dashing, and it can be read when the subject is not exciting without an uneasy sense of strain. His trout do not talk like gold-fish any more than whales. It is difficult to imagine writing more perfect than the pages, scattered all through this volume, in which Mr. Trevelyan describes his hero's father, Henry Fox, first Lord Holland, the able, large-brained, large-natured, easy-tempered, loving brigand, who regarded office mainly as a means of peculating largely, but had not a miserly fibre in him; who accumulated some half a million by filchings from the nation, many of them, no doubt, quite customary, and having made himself a millionaire, was ready to sacrifice it all, rather than his favorite son should be even worried by his own extravagance, and when he paid a debt of 100,000*l.*, did it without a reproach or a bitter feeling for the boy whose waste had been so reckless. We question if

in English literature there is an able sketch than Mr. Trevelyan's of this man, with his imperturbable temper, his worship of his wife, his deep love for his son—a love wholly without judgment or principle or self-control—his incapacity of scruple, his utter callousness to every consideration of right and wrong, his greed to acquire, his lavishness in giving, and his disregard for all mankind outside the limited circle to which he bore a firm, unchangeable regard—a circle which included only his family, one or two female acquaintances and a scamp of position, now forgotten, named Rigby. Lord Macaulay would have described him in a shower of antithesis, till men would have first been interested, then admiring, then doubtful, and then angry that they should have taken that bundle of incongruous qualities for a human being. Mr. Trevelyan, though he gives us the antithesis, and has a scorn of his subject as fierce as Macaulay's for a pompous poet like Montgomery or an unprincipled orator like Barrère, manages to convey the scorn without exciting disbelief, and leaves us charmed with his sketch, disgusted with his sitter, yet without a doubt that the portrait is taken from a man, and a large one—a veritable Fox, who seemed great even to those who knew how he filched, and whom those who knew little of his spoliations could love hard. We give this illustration of Mr. Trevelyan's special quality, which, in this book at least, is character-painting, because the figure of Henry Fox is the one that seems to us most novel, and from the intellectual side most attractive, the man who explains the Foxes, and makes us comprehend how such a man as Charles James Fox, Liberal statesman and popular orator, true citizen and loved political leader, was yet a gambler and *bon vivant* to the point at which gambling is mad viciousness.

Of the character-painting there is even too much. Mr. Trevelyan delights in bringing out the characters of the men who, when Charles Fox was a boy, ruled or influenced England, till he sometimes forgets that his readers desire to be told the facts, as well as the manner of men

* "The Early History of Charles James Fox." By George Otto Trevelyan, M.P. London: Longmans & Co. New York: Harper & Bros.

who governed when the facts were transacting themselves. He assumes, for instance, all through, that the reader knows fairly well the meaning of the measures and transactions of George III.'s early years, and devotes his best skill to descriptions and accounts of the men who then ruled, the group, or rather groups, of dissolute, self-interested, incompetent nobles and politicians through whom George III., as a young man, tried to realize his single idea of being a true king, ruling behind the shelter of a purchased Parliament. Mr. Trevelyan regards these men with a hatred that is almost personal, and leaves, perhaps unconsciously, an impression upon his readers not only that they all, Lord Granby excepted, were corrupt, but that they were all incompetent. The reader wonders how even in that age public affairs could be managed by such councillors at all, and longs for some explanation other than the only one afforded him—that the king bought the members, and that the king governed. Why, at a period when the great nobles really held all power and nominated a majority of the Lower House, did they let the king govern? He could not bribe them, if they were in earnest; and he had not in his earlier years the support of the people, which he ultimately secured through Pitt, through his own blameless life, and through the horror excited in England by the Reign of Terror. We feel that all is not explained, even when we have so mordant a sketch as this:

"George III. possessed all the accomplishments which are required for doing business, as business is done by kings. He talked foreign languages like a modern prince of the blood, and he wrote like the master of every one with whom he corresponded. The meaning of the brief and blunt confidential notes in which he made known his wishes to an absent minister never failed to stand clearly out, through all his indifferent spelling and careless grammar. Those notes are dated at almost every minute from eight in the morning to eleven at night; for, as long as work remained on hand, all hours were working hours with the king. Punctual, patient, self-willed, and self-possessed; intruding into every department; inquiring greedily into every detail; making everybody's duty his own, and then doing it conscientiously, indefatigably, and as badly as it could possibly be done; he had almost all the qualities which enable a man to use, or misuse, an exalted station, with hardly any of the talents by means of which such a station can be reached from below. If he had been born

a private gentleman, his intellectual powers would never have made him a Junior Lord of the Treasury; but his moral characteristics were such that, being a king, he had as much influence on the conduct of affairs as all his Cabinet together. A Frederick the Great without the cleverness, he loved his own way no less than his German brother, and got it almost as frequently; with this difference in the result, that in the score of years during which he governed according to his favorite theory, he weakened England as much as Frederick ever aggrandized Prussia."

That is perfect, though a word might have been said of the brain-disease which must always have been lurking in George III., and of the honest thoroughness of his conviction that the Whig "connection" would ruin the country, as well as enslave the throne. Entertained, however, and even delighted as we are, an impression is left of imperfect work, of sketchiness as to details, which Mr. Trevelyan, if he ever undertakes a complete history, must remove. At present he can plead that he is a biographer not historian, though he would, we imagine, be astonished, if he counted up his own pages, to find how few comparatively he had devoted to Charles James Fox.

The future leader of the Whigs was born on June 24th, 1749, the third son of the Henry Fox mentioned above, who had just finished his suburban palace, and who made him from his earliest childhood a favorite and a companion. He would come home to dine with Charles while still a child, brought him up American fashion, without correction or guidance, and supplied him with money till his extravagance actually affected the tone of Eton. On one occasion Charles declared his intention to destroy a watch. "Well," said Lord Holland, "if you must, I suppose you must." In 1763, when the boy was only fourteen—

"Harassed by his dispute with Lord Shelburne, and not unwilling to withdraw himself and his new title for a time from the notice of his countrymen, he could think of no better diversion than to take Charles from his books, and convey him to the Continent on a round of idleness and dissipation. At Spa his amusement was to send his son every night to the gaming-table with a pocketful of gold; and (if family tradition may be trusted where it tells against family credit) the parent took not a little pains to contrive that the boy should leave France a finished rake. After four months spent in this fashion, Charles, of his own accord, persuaded his father to send him back to

Eton, where he passed another year, with more advantage to himself than to the school. His Parisian experiences, aided by his rare social talents and an unbounded command of cash, produced a visible and durable change for the worse in the morals and habits of the place.

The result was the worse, because Charles had that engagingness which belongs to some lads like a separate quality, and is independent of all the virtues, except truthfulness, and mastered everybody, from the head of Eton downward. At fifteen he went to Oxford, where he read hard—a habit which he retained more or less through life—but when nearly seventeen his father took him to Naples, whence he made the tour of Italy, with companions who, like himself—

“Sauntered Europe round,
And gathered every vice on Christian ground;
Saw every court; heard every king declare
His royal sense of operas, or the fair;
Tried all *hors d'œuvres*, all *liqueurs* defined,
Judicious drank, and greatly daring dined.”

He came back a consummate linguist and a rake, with singular and separate capacities both for work and pleasure:

“The third Lord Holland, who knew his uncle far better than all other people together who have recorded their impressions of his character, tells us that the most marked and enduring feature in his disposition was his invincible propensity ‘to labor at excellence.’ His rule in small things, as in great, was the homely proverb that what is worth doing at all is worth doing well. His verses of society were polished with a care which their merit not unfrequently repaid. He ranked high among chess-players, and was constantly and eagerly extending his researches into the science of the game. When Secretary of State, he did something to improve his hand, by taking lessons, and writing copies like a schoolboy. At the head of his own table, he helped the turbot and the fowls according to the directions of a treatise on carving, which lay beside him on the cloth. As soon as he had finally determined to settle in the country, he devoted himself to the art of gardening, with a success to which St. Anne’s Hill still bears agreeable testimony. He could hold his own at tennis after he was well on in years, and of a bulk proportioned to his weight in the balance of political power; and when an admiring spectator asked him how he contrived to return so many of the difficult balls, ‘It is,’ he replied, ‘because I am a very painstaking man.’ Whatever hand, or mind, or tongue found to do, he did it with his might; and he had his reward, for the practice of working at the top of his forces became so much a part of his nature, that he was never at a loss when the occasion demanded a sudden and exceptional effort.”

Fox returned to England in 1768, to be welcomed by the *élite* of the noble and the dissolute, and took his seat for Midhurst, purchased for him in his absence, without, in his biographer’s opinion, a political conviction. He attached himself, however, to the Duke of Grafton and Lord North, and the road was speedily opened to him. His place in society, which was higher than that of his father, though enemies still taunted him with the original lowness of his family, his regal profusion in expenditure, and his audacious cleverness in debate, made him by thirty a political personage. In 1769, he accepted office as Junior Lord of the Admiralty; and in 1772, when he resigned, on the Royal Marriage Act—an act which, as coming from a king who had proposed to Lady Sarah Lennox, he regarded as shameful—Lord North used every effort to attract him back to his ranks. He was successful for a moment, and Fox entered the Treasury; but the king hated him, and in February, 1774, he was finally turned out. He had up to this time shone rather as an audacious and fluent speaker, apt in inventing good reasons for bad measures, than as a statesman, and was regarded rather as an unscrupulous but formidable debater than as a serious politician. He had acquired among the people, however though he was unpopular, a sort of repute, as a man from whom something might be hoped, owing partly to his independence, partly to his personal charm, but chiefly, we fear, to his reputation for mad extravagance. Though probably not an anchorite as a lad, Fox made a marriage of affection, and remained through life tenderly devoted to his wife.

“And his romance was of the heart, and not of the fancy. There have been few better husbands than Fox, and probably none so delightful; for no known man ever devoted such powers of pleasing to the single end of making a wife happy. When once he had a home of his own, the world outside, with its pleasures and ambitions, became to him an object of indifference, and at last of repugnance. Nothing but the stings of a patriotic conscience, sharpened by the passionate impotency of partisans whose fidelity had entitled them to an absolute claim upon his services, could prevail upon him to spend opposite, or even on, the Treasury Bench an occasional fragment of the hours, which were never long enough when passed at Mrs. Fox’s work-table, with Congreve or Molière as a third in company.”

The popular idea of him as a spendthrift and gambler was, however, correct. His early initiation into play had been his ruin. He gambled like a madman, and spent—like a prince, we were going to say, only princes in our day are generally mean—and in the three years preceding 1794 he wasted all his own means, and incurred debts to the amount of a hundred and twenty thousand pounds. The Jews, who knew his father's immense wealth, always trusted him; but in 1773 the birth to his elder brother of a child, afterward the third Lord Holland, and the human being whom Fox, next to his wife, loved best of mankind, brought down on him utter ruin. His creditors rushed on him in a body, till he said, in bitter blasphemy, that his brother's son was a new "Messiah, born for the destruction of the Jews." The facts were laid before his father, and Lord Holland, the selfish peculator, "confronted the portentous situation like the man of honor and courage which, with all his faults, he was. High or low, exacting or considerate, grasping Jew or

good Samaritan, no one was a penny the worse for having helped and trusted his favorite boy. Much was paid on the spot, much was extinguished by annuities which gradually fell in, and by the time that all was clear, the Fox property was less by a hundred and forty thousand pounds as the consequence of three years of childish giddiness and misbehavior." Strange to say, the lavishness of his father was the only part of his pecuniary viciousness which adhered to Charles Fox, for throughout life, while squandering treasure on a personal indulgence, he never once swerved to pursue his personal fortune, or sought an end which could be fairly reckoned self-interested. The world will wait with eagerness for the completion of this biography, and will not be the less interested if Mr. Trevelyan will give his readers a few more facts, a reference now and then to his authorities, and above all, ten times as many dates. He seems to hate these latter, and time after time quotes letters without even mentioning the year in which they were written.

RECENT SCIENCE.

SUPERVISED BY PROFESSOR HUXLEY.

ALTHOUGH the invention of such instruments as the telephone, the phonograph, and the microphone, has prepared the way for other acoustical marvels, no one will be the less disposed to admire the remarkable instrument which Professor Graham Bell has lately described under the name of the *Photophone*. This is an instrument for the transmission of articulate sounds to distant stations, not by means of an electric wire or indeed of any material medium, but simply by a beam of light. Wherever a beam of light may be flashed from one point to another, there the photophone can be worked. Such an instrument may evidently become of great value in establishing rapid communication between distant surveying stations, and especially in military signaling, where it promises to displace the heliograph. Possibly the field of utility of the photophone may not be so wide as that of the telephone, but in point of scientific interest there can be no doubt

that the new instrument is quite as remarkable as its predecessor. An apparatus of extreme simplicity transmits the spoken words, another of equal simplicity receives them, and between the two instruments there is nothing, save a line of light, to act as a connecting medium. The method by which this extraordinary result has been attained was first disclosed to the scientific world during the recent meeting of the American Association for the Advancement of Science, at Boston. From Professor Bell's communication to that meeting, it appears that the photophone is the direct outcome of experiments upon the curious action of light in affecting the electric conductivity of *selenium*.*

Selenium is one of the rarer chemical

* For descriptions of the photophone see the *Illustrated Scientific News*, Sept. 15; the *Scientific American*, Sept. 18 and Oct. 2; Supplement No. 246; *Engineering*, Sept. 17; *Nature*, Sept. 23, 1880; and *American Journal of Science*, Oct. 1880, p. 305.

elements, found only in a comparatively few minerals, which are but sparingly distributed. The substance was discovered in 1817 by the famous Swedish chemist Berzelius. In examining a deposit which had been obtained from some oil of vitriol works at Gripsholm, near Falun, in Sweden, he was perplexed by the presence of a disturbing element which he was unable to identify with any known substance. It presented many points of resemblance to a rare metal-like body which Klaproth, a few years previously, had named *tellurium*; yet the strange substance from the Swedish vitriol chambers was certainly not tellurium. Careful investigation ultimately led to the conclusion that it was a distinct kind of elementary matter which had not previously been recognized by chemists; and to mark its relation to tellurium—which had been so named from *tellus*, the earth—the new element was termed selenium from *σελήνη*, the moon.

While selenium closely resembles, in some of its properties, certain of the metals, in other characters it is intimately allied to sulphur. Like sulphur it is capable of assuming several distinct physical conditions, or allotropic modifications. Thus, if the selenium be fused and then *rapidly* cooled, it forms a dark brown glassy mass which, like sulphur, does not conduct electricity. But if the melted selenium be allowed to cool with extreme slowness, it solidifies as a granular crystalline mass, having a dull leaden color, and being capable, as Hitdorff first showed, of conducting electricity to a limited extent. The former variety may be termed, for distinction's sake, *vitreous* selenium; the latter *crystalline* or *metallic* selenium. It is notable that, if the vitreous variety be exposed for some time to about the temperature of boiling water, it slowly passes into the crystalline condition.

Since crystalline selenium can conduct electricity, but nevertheless offers considerable resistance to its passage, it occurred to Mr. Willoughby Smith that a bar of this substance might be used with advantage in cases where a high resistance is required, as at the shore-end of a submarine cable in connection with his system of testing and signalling while the cable is being submerged. But, on

putting the crystalline selenium to the test at Valentia Bay, it was found by Mr. May—who was acting for Mr. Smith—that the electrical resistance was far from constant, and a few experiments revealed the startling fact that the conductivity was controlled by the action of light. When exposed to light, the conductivity of the selenium was much greater—or what comes to the same thing, its resistance was much less—than when kept in the dark. This fact was communicated by Mr. Willoughby Smith to Mr. Latimer Clark in a letter which was read before the Society of Telegraphic Engineers on February 12th, 1873.*

So unexpected were the results of Mr. Smith's experiments that the subject was soon taken up by other investigators. One of the earliest to repeat and extend these experiments was Lieutenant Sale, who found that the selenium was not affected by those rays which are most active chemically, while the greatest effect was produced by the red rays, or those of low refrangibility.†

Electricians had long been familiar with the fact that heat has considerable influence on the resistance which various bodies offer to the passage of a current; but until the publication of Mr. Willoughby Smith's letter no instance had been recorded in which light exerted an influence of this kind. It was consequently pardonable to suggest that the variability in the conducting power of the selenium might be due to variations of temperature rather than of luminosity. To determine this point some experiments were conducted by the Earl of Rosse.‡ In these experiments it was found that the selenium remained comparatively, if not absolutely, insensible to radiant heat of low refrangibility. The dark heat from a vessel of hot water, for instance, failed to affect the selenium.

Researches of a more extended character were soon afterward carried out by Professor W. G. Adams, of King's Col-

* "The Action of Light on Selenium." *Journ. of the Soc. of Telegraph Engineers*, vol. ii. 1873, p. 31.

† "The Action of Light on the Electric Resistance of Selenium." *Proceedings of the Royal Society*, May 1, 1873, vol. xxi. p. 283.

‡ "On the Electric Resistance of Selenium." *Philosophical Magazine*, March, 1874, p. 161.

lege, London.* The selenium was exposed not only to radiations from different sources, but to light which had been transmitted through various absorbing media, such as colored glass, solutions of colored salts, plates of rock salt, quartz, mica, alum, and other appropriate substances. These experiments showed convincingly that light was the chief agent in inducing the change in the electrical properties of the selenium, inasmuch as these properties were scarcely affected either by the ultra-red or by the ultra-violet rays. The maximum effect was obtained in the yellowish-green portion of the spectrum. Under the influence of moonlight the resistance of the selenium was sensibly reduced. On the whole it was clear that light and not heat was the agent to which Mr. Willoughby Smith's phenomenon was due. In fact, it is now a well-established fact that while light increases the conducting power of crystalline selenium, heat diminishes it.

While these investigations were being conducted in this country, Dr. Werner Siemens was independently engaged upon the same subject in Berlin.† He devised an ingenious form of selenium cell, which was prepared in the following manner. Two opposite spirals, or two parallel zigzags, of thin platinum wire were laid upon a sheet of mica, and united by a drop of molten selenium, which, before solidifying, was squeezed out into the form of a thin film by pressure of a second plate of mica. The current was caused to enter the cell through one of the wires, then to traverse the selenium, and finally to pass out through the opposite wire. With cells of this construction, a great number of experiments were made by Dr. Siemens in conjunction with Dr. Obach. As long as the selenium remained in the amorphous condition, the current was

unable to pass, but on heating it to 100° C., and then allowing it to cool, it became a feeble conductor, and its conductivity was increased by the action of light. If, however, the selenium disk were exposed to a temperature of about 210° C., or nearly to its melting-point, and then gradually cooled, the substance passed into a second modification, in which it was a much better conductor of electricity, and was extremely sensitive to luminous rays.

For the purpose of detecting variations in the strength of the current under varying conditions of illumination, all experimentalists who had worked on this subject had naturally made use of galvanometers. It occurred, however, to Mr. Graham Bell, that his telephone might be advantageously used in such experiments. It is obvious that if a telephone were introduced into a circuit which included a cell of crystalline selenium, the telephone would be affected at every admission of light to the sensitive material, and again at every exclusion. But, in each case, the effect would be only of momentary duration. Consequently, in order to throw the diaphragm of the telephone into a state of vibration, so as to produce distinct sounds, the light must be intermitted with great rapidity. Let the selenium be subjected to a quick succession of exposures and eclipses, and the corresponding changes in the conductivity of the material would keep the disk of the telephone in a state of oscillation, and thus sound would be produced by the action of light. The light would act upon the selenium, and the telephone would audibly respond.

Foreseeing the possibility of thus evoking sound by the action of light, Professor Bell, in the course of a lecture which he delivered at the Royal Institution in 1878, ventured to express his opinion that when light which had fallen upon selenium was intercepted, it would be possible, by proper arrangements, to hear the shadow. And only a few days afterward, Mr. Willoughby Smith announced that he had actually heard, through the telephone, the effect of the fall of a ray of light upon a piece of sensitive selenium.

Practically, however, it was found that the very great resistance which the sele-

* "The Action of Light on Selenium." *Proc. Roy. Soc.* June 17, 1875, vol. xxiii. p. 535; Jan. 6, 1876, vol. xxiv. p. 163; June 15, 1876, vol. xxv. p. 113.

† "Ueber die Abhängigkeit der electrischen Leitungsfähigkeit des Selen von Wärme und Lichte." *Monatsberichte d. k. preuss. Akad. d. Wissenschaften z. Berlin*, Feb. 17, 1876; June 4, 1877. See also a lecture on "The Action of Light on Selenium," by Dr. C. William Siemens, in *Proc. Roy. Institution*, Feb. 18, 1876, vol. viii. p. 68.

nium offered to the passage of the current rendered it unmanageable. But Mr. Bell, working conjointly with his friend, Mr. Sumner Tainter, has completely overcome this difficulty, and has prepared, by very simple means, selenium cells which offer only a moderate resistance, and are, therefore, suitable for telephonic experiments. No fewer than fifty different forms of apparatus have been devised by these experimentalists for the purpose of actuating the telephone by varying the illumination of the selenium. One of the most simple of these forms consists merely of a small flexible mirror, upon which a beam of light is concentrated. The mirror may be made of a piece of very thin glass, or of a disk of mica silvered on one side. Upon such a mirror a beam of light—preferably sunlight, by reason of its intensity—is concentrated by means of a lens. The light reflected from the mirror is passed through another lens so as to form a beam of parallel rays, and this beam is projected to the distant station, where it is received upon a parabolic mirror. The mirror concentrates the light upon a cell of sensitive selenium which is placed in the focus, and is connected in a local circuit with a telephone and a galvanic battery.

If a speaker at the transmitting station now directs his voice against the back of the little flexible mirror, the mirror is thrown into a state of vibration, and the agitation is necessarily communicated to the beam of reflected light. When, therefore, this light reaches the receiving station, it falls upon the selenium as an "undulatory beam"—in other words, although it may shine continuously upon the selenium, its intensity is yet subject to rapid variations. These variations produce equally rapid changes in the electric current which traverses the selenium, and every rise or fall in the conductivity of the selenium is thus transmitted to the telephone, where it manifests itself audibly by throwing the diaphragm into a similar state of vibration. It is obvious, therefore, that every sound produced at the back of the transmitting mirror must evoke a corresponding sound at the distant receiving station. Words uttered at one end are thus faithfully reproduced at the other, though the bond between

the two stations is nothing more than a beam of light.

No sooner had the photophone been constructed in the form which has just been described than it was destined to undergo an extraordinary modification. It may fairly be supposed that when light falls upon the selenium, it must set up some kind of molecular disturbance upon its sensitive surface. Accordingly, Mr. Bell argued that if such a movement of the molecules really does take place, there was the bare possibility that it might be heard with the unaided ear. Removing then the telephone and battery, Mr. Bell applied his ear directly to the selenium disk. The early experiments were not successful, but ultimately he had the satisfaction to find that the crystalline selenium, under proper conditions, did actually emit distinct sounds. Far more remarkable, however, than this fact, was the unexpected discovery that such an emission of sound, under the influence of varying illumination, is not confined to selenium. The first material in which Professor Bell distinctly observed this phenomenon was a piece of hard rubber, and a great variety of other substances were then tested with more or less success. Antimony and hard rubber were found to emit the loudest sounds, paper and mica the weakest, while the only substances which remained silent in the course of these experiments were carbon and thin glass. The inventors of the photophone feel warranted in stating, as the result of their studies, that sounds can be produced by the action of a variable light upon substances of all kinds, provided they be used in the suitable form of thin diaphragms. Mr. Bell's experiments have therefore resulted not only in the invention of a new acoustical instrument, but in the discovery of the fact that matter in general is susceptible of molecular change, under the influence of light, to an extent and in a way which had not previously been suspected.

In delivering the Presidential Address to the British Association at the recent meeting at Swansea, Professor Ramsay gave publicity to some geological observations which had recently been made by Professor Geikie in the north-west of Scotland, and which, if they bear the

interpretation that has been put upon them, are undoubtedly of the deepest interest to the physical geologist.* The President's announcement was immediately followed by the publication of Professor Geikie's own account of the observations.†

For many years past the order of succession of the old rocks in the north of Scotland has been placed almost beyond dispute. Mr. Peach's discovery of Lower Silurian fossils at Durness long ago settled the age of the limestones and white quartzites of Sutherlandshire, and thus afforded a starting-point for the determination of the age of the unfossiliferous rocks in this region. Beneath the Silurian rocks, in the north-west of Scotland, are enormous masses of dark red or purple sandstones and conglomerates, which rise at places into conical mountains upward of three thousand feet above the level of the sea. The late Sir Henry James and Professor Nicol showed that these sandstones are separated by a strong unconformity from the overlying Silurian rocks; and Sir Roderick Murchison, recognizing their higher antiquity, referred them to the Cambrian formation. But far older than these Cambrian strata, and separated from them in turn by another unconformity, is a series of highly metamorphosed crystalline rocks, consisting chiefly of contorted gneiss. This gneiss occurs in the outer Hebrides, and is occasionally known, from its occurrence in the Isle of Lewis, as *Lewisian gneiss*; it also stretches along the coast of the opposite mainland from Cape Wrath, with more or less interruption, as far south as Loch Torridon. Finding in this pre-Cambrian gneiss a representative of the most ancient stratified rocks in the country, Murchison bestowed upon it the name of the *Fundamental gneiss*—a name which was intended to suggest that it formed the floor of the British islands, upon which the later-formed deposits had been spread. When the investigations of Sir William Logan and his colleagues had clearly shown that there existed in Can-

ada a vast series of metamorphic rocks, also of pre-Cambrian age and largely made up in like manner of gneiss, it was but natural to compare the old Scottish rocks with those of Canada, and thus the "Fundamental gneiss" of Scotland has come to be generally called nowadays *Laurentian gneiss*—the term "Laurentian" having been borrowed by Canadian geologists from the Laurentides, a range of hills which lie on the north of the valley of the St. Lawrence.

Along the western margin of the counties of Sutherland and Ross the Laurentian gneiss presents a peculiar type of scenery, which has been graphically described by Professor Geikie. The gnarled gneiss forms a succession of bosses, hummocks, and ridges, peculiarly rounded in contour, and wellnigh destitute of vegetation. The mammillations of the surface suggest that the rocks have been worn down and rounded by the passage of moving ice; and it needs but little examination to recognize the smoothing, the polishing, and the striation which speak so unmistakably of glacial action. At first sight it might naturally be assumed that these effects were due to erosion by ice during that comparatively modern period which is known as the Glacial Age. Yet it is strange that the neighboring sandstones, quartzites, and schists, over which the ice of that period must also have travelled, fail to exhibit equally marked traces of glacial erosion. Nor can it be said that the unyielding nature of the gneiss has enabled it to retain with persistence the evidence of ice-work, while such evidence has been obliterated from many of the neighboring rocks; for in the Scottish Highlands, where gneissose rocks of younger age have been exposed to the action of ice during the glacial period, the contours and general characters of the rocks are quite different from those of the Laurentian gneiss. How then can the geologist hope to explain the peculiarities in the erosion of the venerable gneissose rocks of the north-west of Scotland?

Probably the explanation is to be found in the recent observations of Professor Geikie. In examining the ice-worn surfaces of Laurentian gneiss, he has been able to trace their rounded outlines passing distinctly beneath the overlying Cambrian rocks. This was the

* "Address on the Recurrence of certain Phenomena in Geological Time," delivered before the British Association, August 25, 1880, p. 17.

† "A Fragment of Primæval Europe." *Nature*, August 26, 1880, p. 400.

case, for example, on both sides of Loch Torridon, and again on the west side of Loch Assynt. The conclusion is thus forced upon the observer that the old gneiss must have received its smooth flowing contours, to some extent at least, before the Cambrian sandstones were deposited. Can it be, then, that we have evidence in these rocks of a glacial period dating back to early palæozoic times?

This suggestion appears to receive some support from Professor Geikie's observations in the neighborhood of Gairloch, where he found the undulating surface of gneiss to be capped in places by a coarse unstratified breccia, containing angular fragments of the Laurentian gneiss, sometimes as much as five feet in length, standing on end and at all angles. Such a breccia obviously bears a suspicious resemblance to a modern moraine.

Since Professor Ramsay, in 1855, brought before the Geological Society the evidence upon which he had satisfied himself as to the existence of glaciers during the Permian period, he has naturally been interested in any traces of the recurrence of glacial phenomena, especially among the earlier rocks. To him, therefore, Professor Geikie's observations were peculiarly acceptable, and he received them without hesitation as evidence of the action of "ancient glaciers of Cambrian age." There was already a body of facts tending to show that glacial conditions must have prevailed in certain parts of the world during a portion of the Silurian period; but if the early glaciation of the Laurentian gneiss be admitted, we may now carry the glacial phenomena a stage further back in the earth's history. It is only fair, however, to remark that Professor Geikie himself speaks most guardedly as to the conclusions to be drawn from his observations, and in referring to the rounded surfaces of the gneiss is content to remark that "they have certainly been ground by an agent that has produced results which, if they were found in a recent formation, would without hesitation be ascribed to land ice." If this ascription be warranted in the case of the old Scottish gneiss, that rock presents us with vestiges of glacial action far older than anything of the kind hitherto

known to geologists in any part of the world.

When Sir Charles Lyell, in preparing the first edition of his "Principles of Geology," now nearly half a century ago, addressed himself to the task of classifying the Tertiary strata, he introduced a principle of arrangement founded upon the varying proportions of living species which occur among the fossil shells in the several beds. Since that time the number of Tertiary species of mollusca known to palæontologists has vastly increased, and the percentages originally suggested by Lyell have not been strictly adhered to, though his divisions and their well-known names—Eocene, Miocene, and Pliocene—still hold their place in our geological systems. There can be no doubt that the quantivalent expressions have ceased to convey the ideas which they originally expressed; and Professor Boyd Dawkins,* holding that the classification is not in harmony with our present knowledge, has accordingly proposed a new method of arrangement. For this purpose he uses the mammalian remains instead of the mollusca. Not that he seeks to displace the Lyellian names, or to propose a new set of divisions. But he holds that the fossil mammalia of Europe present stages of specialization which coincide with the old geological divisions, and are more useful for classificatory purposes than are the mollusca, or indeed any invertebrate forms, or even the lower vertebrates. If his views referred only to certain points of classification, they might be left to the attention of the technical geologist; but, as a matter of fact, they possess a wide and popular interest in consequence of their bearing upon the probable period at which the earliest remains of man may be expected to occur.

The *Eocene*, or oldest group of the Tertiary formations, originally included all those strata which contained only a very small proportion of recent species of mollusca. But if the palæontologist fastens his attention upon the mammalia,

* "The Classification of the Tertiary Period by means of the Mammalia." *Quarterly Journal of the Geological Society*, vol. xxxvi., No. 143, August 1880, p. 379. See also his "Early Man in Britain, and his Place in the Tertiary Period." London: Macmillan & Co., 1880.

he finds that the Eocene period was characterized by the appearance of representatives of living *orders* and *families* of placental mammals, but not of living *genera*, much less of *species*. In this country, for instance, we have representatives of the *Ungulata*, or great group of hoofed quadrupeds, both in the odd-toed division (*Perissodactylia*) and in the even-toed section (*Artiodactylia*). There are also representatives of the *Rodentia* and—what is of far more importance—of lemurine forms of the order *Primates*, which is the highest order of mammalia, including the lemurs, the apes, and man. It is important to remember that it is only the placental mammals which are used as the basis of Professor Dawkins's classification. For if the palæontologist descends to the marsupials, he finds that even in the Eocene period there were representatives of at least one living *genus*. Thus the Woolwich-and-Reading beds of Suffolk have yielded an opossum (*Didelphys*). Marsupial mammals are known to have existed throughout the secondary period, and it is therefore only probable that they should have attained in Eocene times to a more advanced stage of evolution than that reached at the same period by the higher mammalia. But, so far as the placental mammals are concerned, all the fossils found in the Eocene rocks are referred to extinct genera, and consequently the Eocene fauna is not likely to have contained man. "To seek for highly-specialized man in a fauna where no living genus of placental mammal was present would be," in Professor Dawkins's opinion, "an idle and hopeless quest."

In the *Miocene*, or middle stage of the Tertiary strata, the proportion of recent species of mollusca is larger than in the Eocene beds, but still the extinct forms are dominant. Professor Dawkins would define the Miocene as that period in which living *genera* of the placental mammalia first make their appearance. Although the Miocene mammalia are represented in Britain only by the hog-like *Hyopotamus*, yet on the continent, where the Miocene strata are strongly developed, there is a rich mammalian fauna of this period. The Miocene fauna includes representatives of a large number of existing genera, and Professor Dawkins's studies lead him to the

conclusion that certainly as many as twenty-three living genera date their earliest appearance from Miocene times. During the early stages of this period the opossum might still be found lingering in the European forests; but at the close of the Lower Miocene age the palæontologist bids farewell to this, the last representative of the European marsupials. On the other hand, he finds several representatives of the *Primates*, more or less allied to the anthropoid apes, yet all apparently belonging to extinct genera. Remains of these apes occur in the Middle Miocene strata of France and Germany, Switzerland and Italy, and in the Upper Miocene deposits in Greece. It is noteworthy that a large ape has left a record of its existence as far north as Eppelsheim in Germany, thus proving that the range of the *Simiade* in Europe must have extended, during the warm Miocene period, at least fourteen degrees north of the present limit of the Old World apes.

Whether we regard the apes or any other of the terrestrial mammals of the Miocene fauna, it is a significant fact that we fail to find any trace of a single existing *species*. Upon this fact Professor Dawkins bases a strong argument against the probability of ever finding any remains of man in strata of Miocene age. "Man, the most highly specialized of all creatures, had no place in a fauna which is conspicuous by the absence of all the mammalia now associated with him." Yet it must be remembered that several eminent naturalists in France have confidently expressed their belief in the existence of Miocene man. Some of the evidence upon which this belief is grounded has already been set forth in these pages. It is true that Miocene Europe, with its warm climate and with abundance of food in its luxuriant forests, appears to have offered all the needful surroundings for the development of man. But Professor Dawkins, reasoning on the evolution of the higher mammalia, refuses to include man in the Miocene fauna, and expresses his opinion that "were any man-like animal living in the Miocene age, he might reasonably be expected to be not man, but intermediate between man and something else."

With regard to the chipped flints and incised bones, to which the French an-

thropologists point as exhibiting the handiwork of Miocene man, two questions naturally suggested themselves to the sceptical inquirer. In the first place, are they really contemporaneous with the deposits in which they were found? And then, if they be contemporaneous, do they exhibit unequivocal evidence of artificial treatment? But if both these questions be affirmatively answered, Professor Dawkins is not even then ready to accept the flints and bones as witnesses to the existence of man in Miocene Europe. "It they be artificial," says this observer, "then I would suggest that they were made by one of the higher apes, then living in France, rather than by man." And in anticipation of the objections which would naturally be urged against this suggestion, on the ground that such stone-chipping and bone-cutting as that in question is generally considered to lie beyond the range of pithecoïd intelligence, he does not hesitate to argue that "even if the existing apes do not now make stone-implements or cut bones, it does not follow that the extinct apes were equally ignorant, because some extinct animals are known to have been more highly organized than any of the living members of their class."

Although man may have had no place in Miocene Europe, is it equally probable that he was absent from the fauna of the succeeding *Pliocene* period? The Pliocene group of strata, which immediately overlies the Miocene, contains numerous fossil shells, of which the larger number belong to recent species. It is in these beds that *living species of placental mammals* first make their appearance, and consequently it might be supposed that the search for Pliocene man in these deposits would be a hopeful quest. But it must be borne in mind that, so far as our knowledge at present extends, the number of living species of terrestrial mammals in deposits of Pliocene age is extremely small. The Pliocene beds of East Anglia—known as the Coralline, Red, and Norwich Crag—have yielded so fragmentary a collection of mammalian remains, and these so mixed with Miocene fossils, that, instead of basing any conclusions upon the study of such relics, it is desirable to turn to the better-preserved Pliocene

fauna of France and of Italy. Among twenty-one species of fossil mammals, found by Dr. Forsyth Major to have lived in Tuscany during the Pliocene period, only one—the hippopotamus—is still living. "It is to my mind," writes Professor Dawkins, "to the last degree improbable that man, the most highly specialized of the animal kingdom, should have been present in such a fauna as this, composed of so many extinct species."

And thus ends speculation as to the probable existence of "Tertiary Man." For, with the close of the Pliocene stage most geologists bring the Tertiary period to a conclusion, all later-formed strata being regarded as Post-tertiary or Quaternary. Such a classification is, however, objected to by Mr. Dawkins, since a study of the mammalia shows that although a great break does certainly occur between the Pliocene and the Pleistocene period, yet the proportion of Pliocene survivals is so large that it is unreasonable to draw at this stage as strong a line as that which separates the Tertiary from the Secondary formations. He therefore argues in favor of the upward continuity of the Tertiary series, and would embrace in the Tertiary period all the events which have happened from the termination of the Secondary or Mesozoic age down to the present day. The expressions Quaternary and Post-tertiary thus vanish from this system of classification.

Although there may be no violent break in the life-history of the Tertiary period, using that term in its widest sense, there is nevertheless a great difference between the fauna of the Pliocene and that of the overlying *Pleistocene* formation. In the Pleistocene deposits the living species of placental mammals are abundant, and greatly predominate over the extinct species; while in the Pliocene deposits, as already shown, the extinct species are dominant, and the living forms are extremely scarce. It is in the Pleistocene fauna that man makes his earliest indubitable appearance in Western Europe. In the Mid-Pleistocene deposits in the Valley of the Thames, flint flakes have on two or three occasions been discovered, and these flakes are regarded by Professor Dawkins as the very oldest relics of man's handi-

work that have yet been obtained under conditions which place their authenticity above suspicion. In the lower brick-earths of Crayford in Kent, a worked flint was detected a few years ago by the Rev. Osmond Fisher; and a second implement was afterward found in similar deposits at Erith by Mr. Cheadle and Mr. B. B. Woodward.

These rude implements must have been employed by the primeval hunters who inhabited the valley of the Thames at a time when the climate was, at certain seasons, extremely rigorous. The severity of the cold is proved by the presence of such northern animals as the marmot and the musk-sheep. Yet these northern forms were strangely associated with numerous animals which are now found only in temperate and even in warm climates. There were vast number of horses, stags, bison, and uri; while the great Irish elk was still lingering in the valley. The extinct mammalia which then dwelt in the valley of the lower Thames included two species of elephant and three of rhinoceros: these were the mammoth (*Elephas primigenius*) and the short-tusked elephant (*E. antiquus*); the woolly rhinoceros (*Rhinoceros tichorhinus*), the big-nosed rhinoceros (*R. megarhinus*), and the small-nosed species (*R. leptorhinus*). It is remarkable, as Mr. Dawkins has pointed out, that the megarhine rhinoceros has not been found in association with human remains in any other locality. The Mid-Pleistocene fauna of the Thames valley also included the hippopotamus, the lion, and the wild cat, the brown bear and the grizzly bear, the spotted hyæna and the wolf. Such, in general terms, was the group of animals that shared possession of the valley of the Thames with the earliest human inhabitants of whom science has yet obtained any indisputable record.

Since Professor Dawkins published his work on "Early Man," an interesting discovery of stone implements, in the brick-earths of Crayford, has been announced by Mr. Flaxman Spurrell.*

* "On the Discovery of the Place where Palæolithic Implements were made at Crayford." *Abstracts of the Proceedings of the Geological Society*, No. 390. Also: "On the Site of a Palæolithic Implement Manufactory at Crayford, Kent." Paper read before the Geo-

The "find" comprised a large number of flint flakes, with cores from which the flakes had been struck; some fragments of an unfinished stone-axe, and several stones which had apparently been employed as hammers for dressing the flints. In intimate association with the flakes were found bones of the mammoth, of the woolly rhinoceros, and of the horse—these bones presenting the appearance of having been broken by man, perhaps for food. As the edges of the flints are still sharp and unused, and as the flakes lie in close contact with the finest chippings, it is plausibly inferred that the work of flint-dressing must have been carried on at this locality in palæolithic times, and that, in short, the discoverer has had the good fortune to light upon the site of an old manufactory where chalk-flints were fashioned into weapons by the early palæolithic men who dwelt in the valley of the Thames.

Many years ago the important silk-producing industry of the valley of the Rhone was threatened with ruin. A mysterious disease seized upon the silkworms, and resisted all the efforts at its cure, until at length M. Pasteur, who was even then engaged on those studies upon fungi and fermentation which have since rendered him so famous, demonstrated that the pest was caused by a living parasite, and devised means of stamping it out effectually.

Few modern researches have been more suggestive or more fruitful in practical results than these of Pasteur. Our knowledge of the vast amount of mischief to health and industry caused by the lower fungi, and particularly by Bacteria, has been rapidly increasing, while happily the power of successfully destroying these has increased in scarcely less rapid proportion: witness the improvements in wine-making, the still greater advance in the art of brewing, and, best of all, that revolution in surgery effected by the introduction of antiseptic methods.

Of late years the vine-growing districts of France have been steadily invaded by a serious pest of a widely different kind,

logical Section of the British Association at Swansea.

the *Phylloxera vastatrix*, an insect belonging to the same family as the common green *Aphis* of the rose, and endowed with the same power of rapid asexual multiplication. In spite of all remedial measures, the insect is still spreading, and thus constitutes a serious danger to the wine supply of Europe. Soon after the establishment of the Phylloxera Commission of the Academy of Sciences, M. Pasteur threw out a very ingenious suggestion, clearly derived from his early experience of the silkworm disease—to destroy the invader by inoculating it with a parasitic fungus; thus reversing the principle of all the previous applications of our knowledge of these organisms by treating them as allies instead of enemies. Unfortunately no experiments were made, and the subject was forgotten until last year, when Professor Hagen, of Harvard, published an account of his experiments on the destruction of obnoxious insects by the application of the yeast fungus. He concluded that the yeast cells entered the body of the insect, there giving rise to fatal disease, and accordingly recommended the application of yeast to the Phylloxera, Colorado beetle, etc.

Such results as these, on the one hand confirming the old belief in the efficacy of yeast as a means of destroying greenhouse pests, and on the other at variance with all experience as to its mode of life, could not but stimulate inquiry. The subject was soon undertaken by a distinguished Russian biologist, Elias Metschnikoff, who has shown* that the disease-producing fungus of Hagen was not the yeast itself, but was merely associated with it as an impurity. He has succeeded in cultivating several species of fungi parasitic upon insects, notably one which he terms "green muscardine" (*Isaria destructor*) and in tracing their entire life-history. By cultivating the green muscardine apart from insects upon a suitable nutritive fluid, he has been able to obtain a considerable quantity of spores, and thus feels justified in recommending the cultivation of such fungi on a large scale, and the dissemination of their germs in places infested by insects. The subject is at present engaging considerable at-

tention in France, and experiments are being made of which we shall doubtless know the result in the course of next season. In the mean time it is impossible not to await with interest and hope this application of a new method.*

Two years ago a description of the researches which completed our knowledge of the morphology of *Bacillus anthracis*, the bacterium of the splenic fever of sheep and cattle (*anthrax*), was given in these pages. We have now to summarize our recently gained knowledge as to the means of dealing with this formidable scourge, which is widely disseminated throughout Europe, in some districts—as, for instance, the department of Eure-et-Loire—inflicting damage to the extent of millions of francs annually. And here again we are mainly indebted to Pasteur† and the germ theory.

He shows that the disease is produced by feeding sheep on fodder known to contain germs of anthrax, the more readily if barley or thistles, of which the sharp points make tiny lesions on the walls of the alimentary canal, and thus open a way for the entrance of the spores into the blood, be present. It was formerly believed that the Bacilli and their germs were killed by the putrefaction which rapidly follows the death of the poisoned animals, and this is so far true. Some blood, however, is sure to be mixed with the earth in which the animal is buried, and thus a certain number of germs find themselves in conditions which insure their survival even for years. But how are they enabled again to reach the surface? How do they escape the fate which seems natural to particles of such extreme minuteness to be carried deeper and deeper into the ground by the rain? This would indeed take place but for the earthworm, which is constantly bringing up to the surface new myriads of germs of the parasite. The worm-casts from places where diseased animals had been buried even two years before, were invariably found to contain an abundance of spores capable of activity, and it is easy to understand how these casts, broken up by rain and drought, yield to the wind, and spread

* See also *Nature*, 1880, p. 447.

† See numerous papers in the *Comptes Rendus*, July to September, 1880.

* *Zool. Anzeiger*, 1880, p. 44.

over the surface of the adjacent ground ; thus scattering abundant germs which soon give rise to fresh outbreaks of disease. M. Pasteur is hence led to speculate on the possible influence of the earthworm in the ætiology of disease ; on the dangers which may lie hidden in the earth of cemeteries, and on the utility of cremation ; and then goes on strongly to recommend the interment of animals which have died of anthrax in poor sandy or calcareous soils, unfrequented by earthworms and never used as pasture. By attention to this simple precaution he is confident that the malady would disappear in a few years ; for inquiries into the relation of the prevalence of anthrax in any given district to the quality of the soil show that the disease is unknown on the poorer lands, even while abounding on rich clayey land in the immediate neighborhood.

In a somewhat later communication he gives a complete demonstration of the justice of these views. In a small village of the Jura, where a solitary outbreak took place two years ago, the places in which the victims were buried are still easily recognizable by the increased rankness of the vegetation. At these spots he found germs in every worm-cast he examined, as well as on the surface of the ground, although, a few yards off, none could be discovered. Two small enclosures of equal size were then made, the one containing the spots in which the diseased animals had been buried, the other at a few yards' distance, and an equal number of sheep were placed in each. In the latter enclosure the sheep remained healthy ; while, in the former, the disease broke out in a week.

The method of vaccination is also being applied, and with considerable success. Mr. Chauveau has succeeded in reinforcing the resisting power of the Algerian sheep, which is naturally very considerable, and in proving that the lambs borne by previously inoculated ewes are completely safe. M. Tous-saint, on the other hand, selecting sheep of the very breed most liable to anthrax, and inoculating them with plasma taken from animals which had died of the disease, appears to have rendered them proof against it, at least after the second inoculation ; while Pasteur, in the

course of his successful efforts to secure fowls from an allied disease (*choléra des poules*) by the inoculation, finds that he has at the same time insured them against anthrax—a result which has wide theoretical bearings.

Since the researches of Wyville Thomson and Carpenter on the fauna of the deep sea, much attention has been paid to the subject not only by British, but also by American and Scandinavian naturalists ; and a well-equipped French commission, including MM. Henri and Alphonse Milne-Edwards, Folin, Marion, and several other eminent French zoologists, accompanied by two of our most experienced dredgers, Messrs. Gwyn Jeffreys and Merle Norman, has recently been exploring that deep and almost unknown region of the Bay of Biscay which lies off the northern coast of Spain, between Cape Breton and Cape Pénas. A steamer of 1000 tons burden, the *Travailleur*, well equipped with dredging and sounding apparatus, was provided by the Minister of Marine, and the cruise lasted during the greater part of July. The weather being favorable, as many as twenty-four dredgings were made during the last fortnight, at depths varying from 300 to 2700 metres. At the greater depths, the bottom was covered with a thick bed of greenish-gray mud which rapidly choked the dredges. The best results were therefore obtained by trailing bundles of net and hempen tangle. The collection, which has been divided among the various specialists composing the expedition, is of great importance, including not only the majority of the deep-sea forms already described by British and Scandinavian naturalists, but also many new species.

Fishes are rare, but crustaceans and molluscs are abundant. The crustacea, which are wholly different from those found on the adjacent coasts, are of great interest, including a number of curious crabs, some blind, others with large phosphorescent eyes. The doctrine of uniformity of the deep-sea fauna over vast areas is confirmed by the study of the mollusca, the known species having been for the most part discovered off the coasts of Shetland, Greenland, and Norway. Some, too, are Mediterranean, while others had

previously been obtained only as fossils in Sicily, and in the Pliocene deposits of Northern Italy. The collection of coelenterate animals is extremely rich, and most other groups are tolerably well represented.

The 103 soundings taken between Cape Breton and Cape Pénas give a clear account of the configuration of the sea-bottom, which seems the continuation of the slope of the Pyrenees. At a short distance from the coast there are depths of nearly 3000 metres; and steep slopes, and almost vertical precipices, which very often interfered with dredging operations, are frequently met with, especially to the north of Santander. Further west, however, between Tina Mayor and Cape Pénas, a large plateau has been discovered at a depth of 170 metres. It has been named the "*Plateau du Travailleur*."*

The Sea of Galilee, which now lies 212 metres below the level of the Mediterranean, and of which the waters are slightly brackish, appears to have been undergoing a gradual process of freshening since the comparatively recent period when it began to discharge its waters into the Dead Sea. In the hope of discovering a fauna and flora showing signs of adaptation to these altered conditions, M. Lortet† has carefully dredged the lake, which he finds to have a depth of 250 metres, with a bottom of fine volcanic mud mixed with diatoms and foraminifera. Save for the diatoms, there is an entire and unaccountable absence of vegetable life. He finds,

however, twelve species of fishes, of which four are new. The majority belong to the genus *Chromis*, with which the lake is swarming, and which has the curious habit of hatching its eggs and sheltering its young within the cavity of the mouth. There are also ten species of molluscs, of which three are of thoroughly marine type, thus confirming the hypothesis of the freshening of the lake derived from geological considerations.

While all these searchings after new forms of life at great depths or in distant seas have been in progress, an animal no less remarkable than any thus found has been discovered without going so far afield, indeed in the most unexpected of places—the very heart of London. At the beginning of summer, Mr. Sowerby, of the Regent's Park Botanic Garden, was surprised to find the *Victoria regia* tank swarming with a beautiful little jellyfish. He supplied specimens to Professors Allman* and Lankaster,† who have succeeded in making out the structure and affinities of the medusoid, which they term *Limnocoedium Sowerbii*, and place among the *Trachymedusæ*, which develop directly from the egg instead of budding off from a fixed zoophyte. Its main interest lies in the fact that it is the only known fresh-water medusoid, the two other fresh-water Coelenterates, *Hydra* and *Cordylophora*, being fixed forms, not producing swimming bells. It is supposed to have been introduced from the West Indies.—*The Nineteenth Century*.

THROUGH SIBERIA BY WAY OF THE AMUR AND THE USSURI.

BY THE REV. HENRY LANSDELL.

It was my good fortune last summer to make a tour of the world through Siberia. I traversed this enormous country, moreover, by a new way. Two English travellers, Captain Cochrane and Mr. Hill, have recorded their journeys across Northern Asia, but they crossed the Barabinsky Steppe, and from Irkutsk followed the course of the Lena; and, turning eastward, reached the

Pacific at the Sea of Okhotsk. I avoided the Barabinsky Steppe by travelling on the Irtysh and Obi from Tobolsk to Tomsk, and then from Irkutsk I crossed Lake Baikal and descended the Amur, first to its mouth at Nikolaefsk, and then, returning, ascended the Ussuri to the Vladivostock.

The object, therefore, of this paper

* *Comptes Rendus*, August 9 and 16, 1880.

† *Ibid.*, Sept. 13, 1880.

* *Journ. Linn. Soc.*, July, 1880.

† *Nature*, June 24, 1880, and *Quart. Journ. Micro. Sci.*, July, 1880.

will be to give a sketch of my journey from the Urals to the Pacific, dwelling most on those parts which to English readers are new.

The summer traveller to Siberia may now proceed almost thither by steam. The usual overland route lies through St. Petersburg and Moscow to Nijin Novgorod by rail, and thence by steamer on the Volga to Kama and Perm. A railway over the Urals has been recently opened from Perm to Ekaterineburg, on reaching which the English traveller has finished a journey of 2670 miles by rail and 975 by steamer. A drive of 200 miles then suffices to bring him to Tiumen, the first town of Western Siberia.

The mention of Siberia calls to mind a country the dimensions of which it is hard to realize. It measures about 4000 miles long by 2600 wide. It contains a million square miles more than the whole of Europe, is twice as big as Australia, and nearly a hundred times as large as England. The country is intersected by three of the great rivers of the world, the Obi, the Yenesei, and the Lena, not one of which is less than 2000 miles long, and all of which run into the Northern Ocean. A fourth ocean river, the Amur, forming a part of the southern boundary of the country, rises in the eastern branches of the Altai chain, and runs a course also of 2000 miles. It takes an easterly direction, and empties itself in the Gulf of Tartary.

The line forming the western boundary of Siberia descends from the Northern Ocean to the sixty-second parallel of north latitude; then, leaving mountains a little to the left, it comes down in a tolerably straight line to a point midway between the Sea of Aral and Lake Balkash; thence it turns eastward to and along the northern shore of the lake, and going further east, joins the Altai Mountains. All Russia lying to the west and south of this line is in Europe or in Central Asia, all lying to east east of it is Siberia. The river Yenesei divides the country into east and west; the surface of the western portion being generally flat, while the eastern portion, more especially toward the Pacific, is mountainous.

The political divisions of the country are first into two viceroyalties, called respectively Eastern and Western

Siberia, the western being divided into four and the eastern into six provinces. Again, each province is subdivided into districts, or *uryests*; over each *uryest* presides an *ispravnik*, over each province a governor, and over each viceroyalty a general governor. The four provinces of Western Siberia are Tobolsk, Tomsk, Akmolinsk, and Semipalostinsk, each of which has its capital, or government town. Each *uryest* likewise has its principal town. Smaller collections of houses are called *silloi*, or villages (in each of which there is a church); and, still smaller, *dercuni*, or hamlets. The six provinces of Eastern Siberia are Yeneseisk, Irkutsk, the Trans-Baikal, the Amoor, and that of the sea-coast.

The means of locomotion and communication are much more ample than a foreigner might suppose. There are no railways, but there are many steamboats on the rivers, and there are post-roads throughout the entire breadth of the country, the great high road to China being the most important. Along the principal roads there is both postal and telegraphic communication. An ethnographical map of Asiatic Russia shows it to be inhabited by no less than thirty nations or tribes, and also reveals the fact that a very small portion of the country is inhabited by Russians—in fact, only a narrow strip of land on either side of the principal land and water highways; and as the aborigines do not generally follow agriculture, it will be seen that that narrow strip represents the greater part of the country under cultivation. The same facts will indicate that, while the language of the towns and highways is Russian, a knowledge of other tongues is needful for extensive intercourse with the natives. Thus much for Siberia in general. From Tiumen steamers ply in summer on the Tura, Tobol, Irtysh, Obi, and Tom to Tomsk, a distance of nearly 2000 miles. I posted by horses from Tiumen to Tobolsk, and embarked on the steamer Beljetshenko on June 3d, the navigation having recently been opened, and spring weather being nearly established.

I had left England on April 30th, and on reaching St. Petersburg, saw the last of the ice floating down the Neva. Spring advanced so rapidly that, on May 20th, on the banks of the Kama, we saw

strawberry blossoms and violets, but as we descended the eastern slopes of the Urals the weather changed, and there came occasionally snowstorms. From Tobolsk our course lay northward on the Irtysh, as far as the sixty-second parallel, where we returned to leafless trees and comparative winter. Alternate snow and sunshine succeeded. On the Obi my minimum thermometer on June 8th fell during the night to 35° Fahr., but by 9 o'clock next morning it had risen to 75°. After reaching Tomsk fine weather set in, and continued all across Asia. The heat was rarely oppressive, and when sleeping in the carriage at night with an overcoat it was not inconveniently cold.

On the Obi we passed through the territory of the Samoyedes and Ostjaks. In driving from Tiumen to Tobolsk we had passed through a country inhabited by Siberian Tartars, to the north-west of which lies a district which coincides pretty closely with the ridge of the Northern Urals, inhabited by the Voguls, who were estimated in 1876 at 5000 in number. Their country makes them hillmen and foresters, for they live within the northern limit of the fir and birch, in the country of the wolf, the bear, the sable, the glutton, the marten, the beaver, and the elk; all which they hunt, for they have no plains for the breeding of cattle, and no climate for agriculture. Their villages are scattered and small, consisting of from four to eight cabins. They usually dress like the Russians, live by hunting, and are said to use no salt. Obdorsk is their trading town. To this town, on the Arctic Circle, at the mouth of the Obi, come also the Samoyedes and Ostjaks. These latter, too, are both nomads, and live in tents. The Samoyedes inhabit a large tract of country between the Obi and the Yenesei, stretching along the shore of the Frozen Ocean from the north-east corner of Europe all across the Tobolsk Government to the Yenesei, descending to the region of the Ostjaks, and on some parts of their southern border to Tomsk. Their riches consist of herds of reindeer, which they pasture on the mosses of the vast bogs, or *tundras*, from which the animals in winter scrape the snow with their feet, and thus find their own sustenance. To the

Samoyede the reindeer is everything. When alive the animal draws his sledge, and when dead the skin is used for tent and clothing. When at Archangel in 1878 I bought a Samoyede *sovik* or tunic and a wonderful pair of boots, and as their manner of dressing resembles in its main features that of other northern aborigines in Siberia, I may as well describe it particularly. In winter, then, to be in the (Samoyede) fashion, one should proceed to dress himself (or herself) as follows: first, a pair of short trousers made of softened reindeer skin, fitting tight and down to the knee; then stockings of *pishki*, the skin of young fawns, with the hair next the wearer's body; next come the boots, called *pou-mélepte*, which means boots—stockings, perhaps, because mine are lined, reaching almost to the thighs, the sole being made of old and hard reindeer hide, the hair pointing forward to diminish the possibility of slipping on the ice or snow. Common boots have the hair only on the outside. Mine are a gay "lady's" pair, lined inside with the softest fur, and made of white reindeer skin without, sewn with stripes of darker skin, and ornamented in front with a few pieces of colored cloth. The clothing of the lower limbs being completed, one has to work one's way from the bottom to the top of the *sovik*, which has an opening to put the head through, and is furnished with sleeves. The one I have has a high straight collar, but in some brought by Mr. Seeböhm from the Yenesei this collar rises behind above the top of the head. The costume is completed by a cap of reindeer hide, with strings on either side ornamented with pieces of cloth. The hair of the *sovik* is worn outside in fine weather, and inside when it rains; but when prolonged exposure to cold is apprehended, a second garment, called a "goose," is worn with the hair outside, and a close-fitting hood, leaving exposed only a small portion of the face. The Ostjaks are said to have at the end of the sleeve a glove or mitten made of the hardest hide of the reindeer and suitable for heavy work, and also a slit under the wrist to allow of the fingers being used for finer work. A girdle is worn round the loins, over which the *sovik* laps a little, and thus forms a pocket for small articles. The only

route to which, be it remembered, is *vid* the transverse slit through the wrist. We heard some pleasant accounts of the honesty and docility of the Samoyedes and Ostjaks. Their honesty may be exemplified. The merchants of Tobolsk, when they go north in the summer to purchase fish, take with them flour and salt, place it in their summer stations, and on their return leave unprotected what remains of it for the following year. Should a Samoyede pass by and require it he does not scruple to take what he wants; but he leaves in its place an I O U, in the form of a duplicate stick duly notched to signify that he is a debtor, and then in the fishing season he comes to his creditor, compares the duplicate stick he has kept with the one he left behind, and then discharges his obligation.

The difficulties of educating and Christianizing these tribes are very great, and the more so by their migratory habits. Dr. Latham mentions eleven dialects in the Samoyede language, and refers to the work of Professor Castren, who, about thirty years ago, studied closely the languages of the Finnish nations, and to whose labors we owe a dictionary of some of these languages, which was published after his death. In 1824 a commencement was made to translate into Samoyede the Gospel of St. Matthew, but it was not continued after 1826. The same Gospel was translated some years ago into the language of the Ostjaks by the *protohierea*, or chief priest, at Obdorsk, and was forwarded to the Russian Bible Society, but not published, and up to the present time neither that nor any other part of the New Testament exists, as far as I know, for the Samoyedes, Ostjaks, or Voguls. It is said, however, that in European Russia a priest is sent yearly to a town in the far north of the Archangel province, to baptize the children, and marry such among the Samoyedes as are professedly Christian. Also in 1877 the Russians opened a school at Obdorsk for the native Samoyedes and Ostjaks. We may hope, therefore, that for them better days are coming, both by reason of what the Russians are doing, and also possibly and indirectly by the efforts which certain Englishmen are making to invade the lands of these

aborigines for the purposes of commerce.

The Ostjaks dress to some extent in garments of reindeer skin, and also subsist for the most part on what they capture in hunting and fishing. In the use of the bow their skill is so great that for shooting squirrels they use a blunt arrow, and take care to hit the animal on the head, that the skin may not be damaged. They do not generally cultivate the soil, nor have they towns or villages of their own. The Ostjaks, for the most part, especially those on the Obi, have fewer deer, and, being brought into contact with the Russians, are fast giving up their native dress and customs. The religion of both Samoyedes and Ostjaks is Shamanism, of which I shall have occasion to speak hereafter; but many of the Ostjaks have been baptized into the Russian Church, and a school has been opened for the two peoples on the Lower Obi at Obdorsk. One of the most noteworthy things on the Obi was the extraordinary price of provisions. The Ostjaks came to our steamer offering live ducks for five farthings each. Large fish, called *yass*, cost 1½d. a pair, and great pike a farthing each. Milk was more expensive, and cost 2½d. a bottle; but we heard that in some of the distant villages a young calf could be bought for 6d. These prices should be borne in mind in connection with the attempt that is now being made to open up commerce from Siberia by the rivers Obi and Yenesei, and through the Kara Sea, to England. In the summer of 1874 Captain Wiggins, of Sunderland, who had long contemplated the project, sailed through the Kara Sea, which had hitherto been supposed to be blocked by ice, and, reaching the mouth of the Obi, demonstrated to the world that the passage could be made between England and Siberia, with no unusual risks, in about three weeks. In the next year Professor Nordenskjöld followed in the wake of our countryman, and reached the Yenesei.

Now, these two rivers, the Obi and the Yenesei, rise in the empire of China, and drain an extent of country nearly as large as the whole of Europe. The country through which they flow may be divided into four regions. Furthest south are the mountains of the Altai

range, which are rich in silver, copper, iron, and gold. Further north is a belt 600 miles wide of rich black earth, to which it is never thought of putting manure, and the scratching of the surface of which yields an abundant cereal crop. This land, which is comparable to that of an English garden, in the neighborhood of Barnaul may be hired for 3½*d.* an acre. The chief things wanted in this district are capital and labor. The next belt northward is a forest region of numberless square miles, where a hard larch tree, big enough for a ship's mast, may be had for a sovereign, and in which region are abundance of wild animals bearing fur, such as the squirrel, the sable, the Arctic fox, the beaver and the bear, the wolf, elk, deer, etc. There are also abundance of game and extensive pastures for cattle. A merchant told me that in Tiumen he sold ten thousand brace of grouse and capercailzie for the St. Petersburg market at 9*d.* a brace all round, and that in 1877 he bought up meat at Tobolsk for less than ½*d.* per English pound.

The most northerly region is that of the tundras, intersected by rivers that are so full of fish that the natives try to avoid taking a heavy haul, so frequently are their nets broken by the abundance of the draught. Large quantities of choice fish are caught in summer, and kept alive in ponds till the approach of winter, when they are taken out and frozen, and forwarded a distance of more than 2000 miles to St. Petersburg. The express carriage from Tiumen costs 18*s.* a cwt., notwithstanding which, if the sturgeon sells for 24*s.* a cwt., and the sterlet and certain kinds of salmon for 30*s.*, there remains an ample margin of profit for all parties concerned. Beside the "fresh" fish thus sent to St. Petersburg, large numbers are dried, and sent to the great fair at Nijni Novgorod. It may very well be then that a profitable trade at no distant date shall be opened up in Siberian products brought by steamer to the English market.

On the 10th of June, after a voyage of seven days, I reached Tomsk, which is a few miles eastward of the meridian of Calcutta, and 5200 miles from London, the journey having been accomplished in twenty-six travelling days. From Tomsk I made a détour of 600

miles to Barnaul, and in so doing passed through a country singularly rich and productive. Here are to be seen the white-barked birch, the cedar nut tree, the Scotch fir, flowering acacia, the alder, pine, willow, and white flowering cheromoka—the last presenting a pretty object when in blossom, and yielding for fruit a small bird cherry. Among the shrubs we noticed wild currants, which, with the bird cherries, are eaten by the Siberians. There were likewise raspberry and strawberry plants. Among the spring flowers we missed, or perhaps overlooked, the pale primrose; but there were violets and a whole *parterre* of other flowers, both old and new. The fields were blue with forget-me-nots, and we noticed what was to me a new flower something like a buttercup, but much larger. Also east of Tomsk there was a large red lily, made much of in English gardens, but which here was growing wild. There was likewise a large red flower growing in abundance, very much like the peony.

After visiting, at Barnaul, the emperor's usine for the smelting of gold and silver, we returned to Tomsk, and then prepared for a posting journey by horses of 1040 miles to Irkutsk, which was reached on the 6th of July. I need not dwell on this part of the journey, because several have described the great high road to China. After leaving Irkutsk and crossing Lake Baikal we made a second détour to the Chinese frontier at Kiakhta, and then prepared to cross the hilly steppes of the trans-Baikal province to the Amur. The road lay through the town of Werchne Udinsk, and over the Appletree Mountains to Chita, both towns being famous in Russian history as abodes formerly of Decembrists, or certain political prisoners who were concerned in the insurrection at the opening of the reign of the Emperor Nicholas.

Farther on was reached Nertchinsk, near to which are the mines said by some to be of quicksilver, and in the fumes of which it is commonly reported prisoners are killed by inches, being obliged to work therein without coming to the surface. As my tour through Siberia was of a philanthropic character, and I had every facility accorded me for the visitation of prisons and public institutions, I made a point of inquiring

into the condition of these prisoners, one result of which has been that I can get no satisfactory evidence that there is such a thing as a quicksilver mine in Siberia at all. There are, however, silver mines, which exist in the Altai Mountains, and others in the Borshchovochny range, near the town of Nertchinsk, just mentioned. Of those in the Altai range nothing need be said, because they are worked by free laborers. The mines at Nertchinsk are well known as penal establishments, and there can be no doubt that the accounts of severities practised there in former years have caused the ears of many to tingle. I have heard from independent sources that convicts of twenty years' standing at Nertchinsk tell of one Rasguldieff, a cruel director, who used to go about with four Cossacks behind him, armed with the knout, to thrash those who did not work. But this man has long since been removed. For the greater part of my information respecting the mines of Nertchinsk I am indebted to a political exile, who was sent there with several Russian and Polish aristocracy. This account relates to the condition of things as they were in 1866 and 1867, since which date most of the mines have passed out of Government into private hands. The principal centre of the mining district is called Nertchinsky Zavod, and round about were formerly various mines, works, hospitals, and prisons, such as Kadaya, Akatuya, Klitchka, Alexandreffsky, Stretinsk, Sivakoff, and perhaps some others. Kadaya was only two or three versts from the Chinese frontier. Alexandreffsky was about six versts from the frontier, and thirty-five versts from headquarters. At most of these places prisons were built—at Alexandreffsky of stone, at Kadaya of wood, and at Akatuya partly of wood and partly of stone. At Nertchinsky Zavod the prison was very old, and empty. The commandant living there, he preferred to house the convicts at a convenient distance. At Alexandreffsky there were not less than 700 prisoners in three buildings; also at Akatuya there were 110 prisoners who had been priests, and 22 others sent to join them for extra punishment; Akatuya, by reason of its isolation and loneliness, being regarded as the worst of them all. At this place a

priest had, for punishment, a chain put upon his wrists so heavy that he could not sleep, and they had to take it off. Also, formerly, but not in the time of my informant, there was a man chained to the wall. But these were exceptional cases, and such things were not done to the political prisoners, many of whom had friends who could bring influence to bear in their favor. There were sometimes cases in which criminal prisoners burst out into fits of ferocity, and were guilty of insubordination that called for special punishment. At Sivakoff men were sometimes suspended for a time, he said by the armpits, but none were chained to barrows or tools, as is sometimes the case. My informant himself, who had insulted the general governor, and also joined others in a league to refuse to work on Sunday (the cruel and unjust ukase to this effect was issued in 1866) was first put on half provisions, then deprived of meat, then of milk, then of tobacco, and then was not allowed to lounge in the yard, but had to go straight from work to his ward. The priests had joined in this resistance to Sunday labor, and there were both Protestants and Romanists among the league. Some of the priests, however, were the first to give in, and all at length followed; so that they had afterward only a very few days for holidays in the course of the year.

I asked as to the formation of the mines, and found that some of them had shafts and galleries. In one case, the shaft, on account of its construction, was dangerous to descend. In some cases I gathered that the granite was got, as it were, from the side of a hill, and that the work of the prisoners consisted largely of boring holes for blasting, which, when ready, were charged with powder by Cossacks or laborers, and in the absence of the prisoners were fired. From an engineering point of view, the mines, so far as I could understand, were worked badly enough. This agreed with what I heard in Siberia elsewhere. They had no steam or horse power, and the mines subserved the purpose of providing hard labor for malefactors rather than that of bringing gain to the Emperor.

I inquired carefully about the duration of labor, and found it was thirteen hours a day, which agrees with the hours I

found at Kara, in the gold mines. At twelve o'clock they came out of the mines to dinner, unless, that is, a man had arranged his hours otherwise, for it seems that, so long as they did not worry the Cossacks, or prevent their lounging and smoking, they might do their allotted number of hours when they pleased. There was, moreover, no definite amount of mineral required of every man daily, and hence he might work hard or easy, pretty much as he liked. This reminded me of what was told me in Siberia by a Pole who had been at Nertchinsk, to the effect that, though condemned to the mines, he worked or not pretty much as he chose. As for the sulphur fumes said to exist in the mines, my informant tells me he never perceived them, and he met with those who had worked in all the mines of Nertchinsk, but that they never complained of them. This, then, appears to have been the condition of affairs at Nertchinsk fourteen years ago, and, from what I heard in Siberia last year, things have since improved. An officer who had visited them five years before told me that he found the men working twelve hours a day, six on and six off, but that they looked sickly; while another gentleman, who had recently visited the mines, and told me of the sorrowful stories of old convicts, said that he believed there were no enormities existing now, though of course he was far from saying that the lot of the convicts was an easy one.

Nor is it my object to make it appear so. Far otherwise. The period of an exile's life spent at the mines before being set free to colonize cannot but be hard. Whatever laxity of discipline may prevail as compared with the prisons of other countries, the herding together of the worst of characters, the deprivation of social, intellectual, and religious privileges, to speak of nothing else, must make life in the mines, from the nature of things, a burden. But this is very different from killing men by inches in sulphur fumes, as is commonly supposed. It is no part of my calling to palliate the deficiencies of the Russian penal system. That system is now, however, in a transition state, and money only is lacked to carry out to the full many reforms that have been already commenced.

Leaving Nertchinsk, the journey was

continued to Stretinsk, on the Shilka, at which place I arrived on the 24th of July, being now as far east as Nanking, and having finished a drive of 3000 miles, accomplished in thirty-seven travelling days and nights, and by the hire of 1000 horses. From this point my interpreter returned to Russia, and I rowed seventy miles in a small boat down the Shilka to Kara, where is a penal colony of 2000 convicts, condemned to hard labor in the gold mines. Of this number about 800 were murderers, 400 were robbers, and 700 vagrants, or "vagabonds." There were also a few political prisoners, but only a few; though I was told that Kara is the place to which such exiles, when condemned to hard labor, are usually sent. After seeing all but two of the principal prisons and penal colonies of Siberia, I came to the conclusion that the number of political prisoners commonly said to be deported thither is largely in excess of the facts. I spent more than two days at Kara, and had ample opportunity of seeing the place well. I went to the mines and saw the men at their work, which is all done on the surface, and which resembled the labor of navvies when making a cutting, stones and earth having to be carted away and put into a machine to be washed. Their hours of labor were from six in the morning to seven at night, with an hour or two's rest for dinner; and this only in the summer season, for in winter the ground is frozen, and they have little or nothing to do. Free laborers in the mines I noticed continued to work after the convicts left, and I learned that the convicts may sleep from nine to five in the summer, and in winter, if they choose, from seven to seven. The food and clothing of the male convicts cost the Government ten guineas a year each, and the food per week given to a hard-labor convict at Kara is nearly double in weight that which is given to a convict in England. The number of indulgences also accorded to a prisoner at Kara, such as receiving visits from relatives, or money from friends, correspondence by letter, and remission of labor, is largely in excess of similar privileges accorded to convicts in England. Kara inherits a bad name from former days, and it was spoken of to me by officials as one of the

severest of places for prisoners; but after seeing it more thoroughly than any other, I came to the conclusion that, under the superintendence of Colonel Kononovitch, its present director, it is one of the best managed of the penal colonies of Siberia. From Kara, on the Shilka, I took steamer for Khabarofka, situate on the Lower Amur, at its junction with the Ussuri. The scenery of the Shilka is particularly beautiful, and compares by no means unfavorably with the Rhine; 200 miles below Stretinsk it finishes a course of 650 miles, and then uniting at Ust Strelka with the Argun it forms the Amur. From Ust Strelka to its mouth the Amur has a course of 1780 miles, with a fall of 2000 feet; but if the Argun be regarded as the head waters of the river, there must be allowed to the Amur a length of 3066 miles, and a fall of 6000 feet. At Ust Strelka the river is 1100 yards wide and ten feet deep. At Albazin, 160 miles lower, it contracts to 500 yards; but the depth increases to 20 feet. Then running 400 miles to the south-east, it passes Blagovestchensk, which is a convenient point for distinguishing between the Upper and Middle Amur. The natives of the Upper Amur are, on the northern bank, the Manyargs, Orochons, and other branches of the Tunguse family; while on the southern bank are the Manchu Chinese, and others falling under the name of Daori.

At Blagovestchensk the Amur receives one of its most important tributaries, the Yeya, and at Anjun, somewhat lower, the Amur increases to a mile in width. At Pashkova it commences to flow through the Bureya mountains amid scenery that will bear comparison with many parts of the Danube. From these mountains the stream widens up to the confluence of the Ussuri, which flows into the right bank of the Amur at Khabarofka, which is 1123 miles from Ust Strelka, and divides the Middle and Lower Amur. There are seventy-five stations between Stretinsk and Khabarofka, at which latter I arrived on the 8th of August, intending to proceed up the Ussuri. Instead of this, I had to continue down the Lower Amur, a distance of 600 miles, to Nikolaefsk, and in so doing to pass, though not necessarily to stop at, fifty-two stations. The entire basin drained by the Amur and its

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tributaries covers an area of 766,000 square miles, that part of the basin belonging to the lower part of the river being formed on the west by the Bureya Mountain, and on the east by the sea-coast range known as the Sikhota Alin. The course of the river is toward the north-east, and it has a current of three knots. The principal tributaries flowing into the left bank are the Kur, Gorin, and Amgun; on the right bank, the Dondon and the Khungar. But for the delays we should have accomplished the voyage from Khabarofka to Nikolaefsk in four days. At our starting the river was 900 yards wide, but we had not travelled far before it grew broader, and included many islands. At the confluence of the Dondon the channel measures three miles in width, which is the greatest breadth of the river in a single stream; seventeen miles lower, the left bank is marshy and dotted with lakes, and here the entire width of the river attains its greatest, which from bank to bank is twelve miles. We came on the third day to a village called Michailofsky. Here we waited for twenty-four hours, which afforded me an opportunity of visiting a Russian village. Cucumbers were just come in, and the people were eating them like apples. In the evening a *soirée* was extemporized, and the ship's company invited; and when, next morning, two of us called to pay a complimentary visit, we were invited to eat cucumbers and salt, nothing else being placed before us. We succeeded, however, in purchasing here abundance of wild raspberries, and, in returning, at the beginning of September, I bought at Tambofsk melons and ripe black currants; the latter good, but having less taste than those cultivated in England. Other berries were offered for sale, of a tart but juicy nature. It is in this district principally, I believe, that the corn of the Lower Amur is grown. They have a summer of only four months and a half, but with more energy and capital an immense quantity of rye, I was told, might be cultivated. The total cereal produce of the district between Khabarofka and Nikolaefsk amounted in the year preceding my visit to 3276 tons (203,838 poods) of grain, and 811 tons (50,450 poods) of potatoes. North of Nikolaefsk the land is not cultivated.

The natives live by hunting and fishing, and the Russian subjects are supplied with corn by the Government.

At Michailofsky we changed our steamer, and arrived on the next morning at a Gilyak village called Mukhal, near which are some hot springs, said to be beneficial in cases of rheumatism, syphilis, diarrhœa, and goltre. The man who keeps them is allowed to have a monopoly, and the Government gives him a grant of £50 a year. About mid-day, not far from the mouth of the Amgun, we passed another Gilyak village, called Tuir. The Amur here contracts to a width of 900 yards, and from a bold cliff on the right bank, perhaps a hundred feet high, a fine view is obtained when looking up the stream. The river's banks spread to a width of five miles, and well-wooded islands lie between. To the south are dark forests and mountain ridges, and at the back of the cliff is a table-land several miles wide.

On this hill, moreover, there are objects of archæological interest in the form of Tatar monuments bearing inscriptions, from which it has been inferred that there once stood on the spot a lama monastery. The monuments are by some supposed to have been placed there to mark how far in that direction the Tatars extended their conquests. One account dates them back to the time of Gengis Khan. The best account I have seen of them is in Mr. Ravenstein's work. He says that on the left-hand side of the principal monument are the Sanscrit words "Om-mani-badme-Khum;" that in a second line on the same side are the same words written in Chinese and Nigurian; and that the inscription on the right side contains the same in Chinese, Thibetan, and Nigurian. I myself could examine the monuments only for a few minutes (for the boat would not stop), and whether the foregoing account be true or not, I came to the conclusion that it is inadequate and far from exhaustive. There certainly are on the stone some large Chinese characters, perhaps two inches long, and some of my Chinese fellow-passengers were able partially to decipher them; but the general appearance of the stone reminded me of a palimpsest manuscript which had been in

the first place covered with small characters, about half an inch square or less, and over which the larger characters described by Mr. Ravenstein had been subsequently written. Beside the monumental stone, which was mounted on a pedestal and stood about five feet high, there were lying near some flat stones with transverse grooves cut across the centres, which are supposed to have been originally used, and perhaps are so used still, by the Gilyaks for sacrifices, the grooves serving to pass off the blood. Whether this be so or not I cannot say; but they looked to me much more like the capitals or bases of pillars, the grooves having been made to keep them in place. It is much to be wished that the monuments might be submitted to the examination of some competent scholar. Toward evening we passed another Gilyak habitation called the "White Village," where, in 1850, a Roman Catholic missionary named De la Brunière was killed; and about nine o'clock at night we reached Nikolaefsk. The Amur at Nikolaefsk reaches in some places to a depth of fifteen feet, is a mile and three quarters wide, with a current of from four to five knots. The river enters the sea at a distance of twenty-six miles, the *liman* or gulf measuring nine miles at its widest. Rather more than a mile below the town there are sandbanks, which render the navigation of the river's mouth very difficult. There is also a sandbar, which prevents the entrance of ships drawing more than thirteen feet of water.

I stayed at Nikolaefsk from the 13th to the 30th of August, but did not succeed in finding a convenient opportunity for crossing to the island of Sakhalien. The climate of Nikolaefsk cannot, I fear, be recommended to those in search of a genial air. The breaking-up of the ice and the opening of the navigation does not take place till between the 12th of May and the 1st of June, and the summer, when come, lasts only about four months. During the eight months' winter keen winds prevail, bringing snow-storms of such violence and density that I heard of a man losing himself in crossing the street from the club to his own house. The snow lies frequently from four to five feet deep.

The Russians have fourteen meteor-

logical observatories in Siberia, the two on the Pacific being situated at Nikolaefsk and Vladivostock. They register thrice daily—at seven, one, and nine—the readings of the barometer; the dry and wet bulb thermometers giving the humidity of the atmosphere, record the direction of the wind, and the amount of cloud, rain, snow, etc. In their published statistics for 1877 (the last, I think, at the time of my visit), the temperature at Nikolaefsk during the month of August reached no higher than 82.8 Fahrenheit, and went down to 45.5, the mean temperature of the month being 61.9. The highest temperature of the year was 88.2, which occurred in July; the greatest cold was in February, when the thermometer fell to 26.9 below zero; the mean temperature for the year being only 30.2. At Vladivostock, which is ten degrees to the south, the summer extends to six months and a half. The maximum temperature in the month of August, already referred to, was 89.1, which proved the highest of the year, and the minimum was 57.0, the mean for the month being 68.7. In January the degrees of cold registered were 10.8 below zero; and the mean temperature for the year was 41.5. During my stay at Nikolaefsk the summer was unusually cold. On several days it rained, and when taking an evening stroll I did not find an ulster coat too warm. On the night of August 19 the thermometer registered 45.5, and during the preceding day did not rise above 50. In England, at Blackheath, on the same days, the thermometer registered 49.7 in the night, and 70 on the preceding day.

The season, too, for garden produce was about a fortnight late. On August 19th we ate new potatoes. They cost 2½d. a lb., but eight days later they cost but 1d. a lb. Cucumbers were ready on the 10th of August, and on the 27th they were selling for 3s. per hundred. Eggs cost 5s. per hundred, fresh butter 2s. 3d. per pound, and beef from 7d. to 8½d. On August 27th we had our first spring cabbage, made into little pies and eaten with soup. The price of these cabbages "to a friend" was 5d. each, but they were expected shortly to fall to from 16s. to 20s. a hundred. I do not remember tasting mutton, but was informed that a good sheep weighs about

half a cwt., and costs alive at Nikolaefsk from 22s. to 30s. In Western Siberia, about Tomsk, a sheep can be bought for a couple of shillings. Quoting prices in a more general way, I may say that in Nikolaefsk and Sophiisk, the price of meat varies, according to the season, from 5d. to 9d. an English pound. On the Ussuri it costs from 4d. to 6d. Butter, not fresh, costs throughout the province (that is, the coast from Vladivostock to Behring's Straits) from 10d. to 13½d. per lb. Black tea from 2s. to 4s. the Russian pound, and brick tea from 10d. to 1s. 2d. The price of sugar varies from 6d. to 8d.

The prices, at Nikolaefsk, of game and fish were in striking contrast to some of those I have mentioned. I bought in the streets a capercailzie (called a *glookhar*, or deaf bird) for 10d., which was thought by no means cheap; and a blackcock was offered for a similar price, or less. The price of fish throughout the province is stated at from 9s. to 24s. per cwt. The Amur abounds with fish, among which are the salmon, the sturgeon, sterlet, dolphin, trout, and others known by the names of sazan, karass, and a white fish called siug. The Russians think very highly of the sterlet; and the sturgeon also is costly. At Viatskoi, near Khabarofka, we were offered a small sturgeon, three feet long, for half-a-crown, but I was told that at Moscow it would cost a sovereign.

The price of salmon, however, was the most surprising. Up to the 20th of August salmon trout, weighing from ten to twelve pounds, cost as much as 5d. each, but they are then said to be *dear*. On the 15th of August a large salmon, the first fish of the season, and weighing perhaps fifteen pounds, was offered to me for 7½d.; but this was considered quite "a fancy price." From the 1st of September to the 17th, during which period the large fish are caught, weighing from fifteen to twenty-five pounds, they may be bought for 10s. a hundred, or a penny each! About 500 tons of salmon are salted yearly at Nikolaefsk for winter use, the Government having yearly two contracts for sixteen tons, and others besides. For the most part, however, the fish of the province is consumed where it is caught, and it is only

quite recently that exportation in small quantities has commenced.

The town of Nikolaefsk extends about a mile along the west bank of the river. In 1858 the inhabitants numbered 2552. They subsequently increased to about 5000, and when the town was the residence of the governor of the province and the port for the Siberian fleet, it was a place of some importance. Now, however, its glory has departed. Grass grows and cows graze in the streets. Its wooden pavements are rotten, many of its houses empty; and the rusty machinery and bombshells in the arsenal and dockyard seem to have reached the time when nations are to learn war no more. There are three hospitals in the town, one for civilians and two for the soldiers. There are also two prisons, both of which I visited; one is for local offenders, the other serves as a depot for convicts on their way to Sakhalien. The authorities complain that both the prisons are old, built of bad materials, inconvenient, and wanting in proper sanitary arrangements. Some idea of the character of crimes committed in the province in 1871 may be gathered from the following subdivision of its 114 criminals — namely, insubordination to authorities, 13; breaking prison bounds and running away, 4; vagrancy, 31; murder, 5; personal violence, 11; libel and assault, 12; theft, 27; and highway robbery, 11. The chief causes of offence are officially reported as "gambling and drunkenness."

Nikolaefsk, from its position at the mouth of a river which is navigable so far into Asia, will probably continue in its present commercial position, unless perchance railway communication were made from Vladivostock to the Ussuri. The population of the place is estimated at 3500 or less; and there came to it in 1878 twelve merchant vessels, bringing manufactured goods to the value of 52,781*l.* (527,819 roubles); alcohol, 4705*l.* (47,050 roubles); and wines, beer and porter, 1604*l.* (16,045 roubles). Merchandise was brought overland also to the value of 47,843*l.* (478,431 roubles). Complaint is made that the imported manufactures are of the lowest quality, to which a merchant made answer to me, that when he imported good articles the Russians admired them, but when he

imported cheap ones they *bought* them. The foreign merchants complain that, though there is an abundance of timber in the district, it is not allowed to be exported. Neither do they export corn. On the contrary, the first and second qualities of white flour used along the Amur are all imported from America, which may perhaps account for my having to pay for white bread 5*d.* per lb. at Stretinsk, as against five farthings at Tobolsk. About 15,000 fifty-pound bags (say 335 tons) of white flour are sold yearly in Nikolaefsk, the best costing from 4*d.* to 6*d.* per lb., the second from 3*d.* to 3½*d.*, and a third quality, grown at home, from 1½*d.* to 2½*d.* per lb. The price of rye at Nikolaefsk and Sophiisk varies from 1½*d.* to 2*d.* per lb. On the Ussuri it costs rather less, and north of Nikolaefsk 2*d.* per lb. is asked. Labor throughout the province is scarce. Many, if not most, of the domestic servants are convict women, and many of the laborers also are convicts who have served their time. A man's wages cost 3*s.* a day, or, for a man and horse in summer, 6*s.* a day; but in winter 30*s.* a month and hay for the horse. A night watchman at Nikolaefsk may get as much as 3*l.* 10*s.* (35 roubles) a month without board, and a man servant 2*l.* 10*s.* (25 roubles) a month and his food. This would be considered good pay. There are barracks at Nikolaefsk, Government buildings, and the admiral's house; also a Russian church and a Roman chapel. On the two Sundays I was there I conducted what I was informed were the first English services held on the Amur. The police sent round notice on the Saturdays that I was to hold the services, and on the first Sunday thirty persons were present, many of whom were employes of German merchants.

Finding that I could not get by ship to Japan or China, I determined to retrace my steps by the mail boat which leaves Nikolaefsk every three weeks for Khabarofka. Accordingly, I left on the last day of August in the Onon, fitted with Belgian engines of 30 horse power, and manned by five machinists and eight sailors. We were five days making the return journey to Khabarofka, and we stopped at more stations than in descending, which afforded me opportunity of seeing and hearing more of the inhab-

itants, both Russian and aboriginal. Of the Russians found in the villages of the Lower Amur it may suffice to say that some are colonists, some are connected with the army, and some are Cossacks; but of these last I shall speak as they are seen on the banks of the Ussuri.

The aborigines of the Lower Amur include the Goldi, Gilyaks, Orochons, and Ainos; farther north to Behring's Straits are Tunguzes, Lamooti, Koryaks, and Kamchadales. By reason of their wandering manner of life their exact numbers cannot be ascertained; but the latest official returns, based on statistics supplied by the church books, give the total number of the tribes just mentioned as 44,189 of both sexes. The same difficulty besets the numbering of the travelling population in the Ussuri districts—namely, the Coreans, Manzas, Tazas, and Chinese; but calculating from the registers of births and deaths, their population is estimated at 6200. In 1878 there were in the whole province 223 marriages, excluding those of soldiers and convicts. The Ainos are found for the most part on the island of Sakhalien, and the Orochons inhabit the sea-coast rather than the Amur. As far as I know, I saw only one Orochon. He was in prison, just come from the bath, and looking superior to most of the aborigines of the neighborhood.

I saw more, however, of the Gilyaks and the Goldi, which are the two tribes found in the greatest numbers on the Lower Amur. The length of territory over which the Gilyaks wander extends from the mouth of the river to a village called Tombofsk or Gorin, situated 350 miles from Nikolaefsk. I tried to learn their numbers, but was not successful, their arithmetical ideas being very vague. I asked, for instance, a Gilyak, who had been a chief man of a village in which the missionary was killed, what was its population, to which he replied that they had sixty men, more women, and the children they had not counted. Mr. Collins, twenty years ago gave their villages as thirty-nine, with an estimated population of 1680. The Gilyaks differ both in language and in many of their habits from all the other tribes of the Amur. In form they are diminutive, usually below rather than above five feet, their eyes elongated, the color of the

skin like that of the Chinese, hair black and not luxuriant, with little on the face. In intellect they are very low. They do not learn the Russian language, nor do the Russians learn theirs; and I believe they have no written signs whatever. Their diseases are rheumatism, diseases of the eyes brought on by hunting in the snow, and syphilis, the last having been originally brought by Manchú merchants. In hereditary cases it is no doubt aggravated by their filthy manner of living. They are said never to wash, and though constantly on the water they never, if possible, get into it. A telegraphic engineer told me that he one day gave a Gilyak a piece of soap, which he put in his mouth, and after chewing it to a lather pronounced it "very good." Their habitations are better than might be expected. The walls are of timber and mud, and around three fourths of the interior of the wall is a broad divan, with flues heated by fire at either end. On this they sleep. In the centre of the building is a platform, under which, in winter, the dogs have their habitation, and sometimes also a bear. Suspended from the roof are sledges, fishing tackle, hunting weapons, and hundreds of pieces of dried fish, from which medley is emitted an odor anything but like that of a spring nosegay. Their mode of travelling in summer is by boats, which they propel with oars, pulled not together but alternately. In winter they travel by dogs and sledges. They eat surprisingly little, and subsist almost entirely on fish. A piece of salmon a foot long and two inches thick will suffice a Gilyak, I was told, for a day, and when travelling the same amount serves for a dog. They have little notion of a Supreme Being. "What is your religion?" I asked of a Gilyak. "We have none," he replied. To another I said, "To whom do you pray?" "To the skies," he answered. They are commonly said to worship the bear, and some members of this tribe have a cage in which a bear is confined and fed. From time to time he is brought out to be made sport of, and once a year each village takes it in turn to provide one of these animals, which is killed with much ceremony and eaten. I asked them more than once whether it was true that they worshipped the bear,

but this they always denied. So far as they have any religion at all, it is that of Shamanism, the chief feature of which seems that when they have any evil to deprecate or advantage to crave they have recourse to a Shaman priest, who performs certain ceremonies and incantations, there being usually connected therewith the drinking of Chinese brandy to the intoxication of the whole party. They make rough idols of wood, which they use at their ceremonies, and in sickness they are worn about their persons as charms. I asked one Gilyak to sell me his gods, but he at first hesitated, saying that he found them very useful in sickness. He changed his mind, however, and after my leaving his house sent some after me for sale. One feature of their religion struck me as noticeable, which was that they did not call in the aid of a Shaman at times of joy or thanksgiving, as at a wedding, but only when they had something to get or something to fear, as in sickness or at death. I visited two Gilyak villages, and was much interested in this miserable people.

In ascending the Amur, the habitations of the neighboring Goldi, as I have said, begin at Gorin, whence they continue past Khabarofka and up the greater part of the Ussuri. A Russian missionary to this people, whom I met at Khabarofka, estimated the number of the Goldi at more than 6000. Unlike the Gilyaks, who are dying out, the Goldi, he says, are slightly on the increase. They suffer from the same diseases as the Gilyaks, and having no hot springs for the cure of syphilis, they not unfrequently die of that disease. Their women have few children—six is thought a very large family. They had, until within the last ten years, a revolting practice of placing their dead in one common house in the village, and going there from time to time to mourn. The stench in summer, however, was insupportable, and often drove them away. Now they follow the custom of the Russians, and bury their dead.

Both Gilyaks and Goldi are alike in that they purchase their wives and practise polygamy. A Gilyak will sell his daughter for eight or ten dogs, a sledge, and two cases of brandy; or if she have a "good nose" she may fetch a little more. A rich Golld, in providing a wife for his son, will pay from 5*l.* to 20*l.* for

a girl five years old. She will then be taken to her father-in-law's house, brought up with her future husband, and when the girl is twelve or thirteen, and the husband eighteen, the marriage will take place. Weddings, however, are expensive things, for all the relatives expect to be invited, and they sometimes drink several gallons of Chinese *khanshin*. The drinking of this, I am told, causes not only intoxication, but among these people violence akin to madness. It is sold by weight, and costs 10*d.* per Russian pound; but its importation is strictly forbidden by Russian law. Should a Golld who has many wives desire to be baptized, the Russian missionaries compel him to elect one, and be canonically married to the object of his choice, the rest, by a happy arrangement, being returned to their respective fathers at half price. Notwithstanding these matrimonial drawbacks, however, I heard that among these interesting people there are no unmarried ladies.

The favorite winter dress of both Goldi and Gilyaks is made of the skins of their dogs, or those of the fox or wolf, as the next warmest. In summer they wear dresses of fish-skin; hence the Chinese call them "Yupitatzé," or fish-skin strangers, though the well-to-do among them sometimes get from the Manchu cotton goods, and the rich purchase silk. Indeed, in answer to one tender inquiry I made, I was informed that from four to seven pieces of stuff would purchase a wife.

The Goldi language is much like that of the Manchu. They can understand each other. Their present Russian missionary, Protodiakonoff Procope, has translated into their language parts of the Scriptures and of the Greek liturgy. I found, too, that he is compiling a Goldi lexicon and grammar, and that for his linguistic labors he has received a medal from the Imperial Geographical Society. He gave me the following words as examples from the Goldi and Orochon languages:

Goldi.	English.	Orochon.
Omu.	One.	Omu.
Dhjour.	Two.	Dhjou.
Ellan.	Three.	Ulla.
Duyin.	Four.	Dii.
Tongha.	Five.	Tungha.
Seppha.	Sable.	Nossa.
Solli.	Fox.	Solaki.
Inda.	Dog.	Inda.

The Russians have two mission schools on the Lower Amur, attended by thirty children; one in Troitzka for the Goldi; and another for the Gilyaks at Bolan, not far from Malmuish. The priest to whom I have alluded told me that in twenty-three years he had baptized more than 2000 heathens.

But I must hasten forward to the Ussuri. On the 4th of September I came for the second time to Khabarofka, where was an excellent military hospital for 100 patients, in which, however, only thirty-six beds were occupied. They have also an establishment for building steamers, employing fifty men, and producing manufactures to the value of 10,000*l.* yearly. There are also in this place several merchants who trade with the aborigines of the north in furs, more especially that of the sable, to the extent of 30,000*l.* a year. I was invited to the garden of one of the merchants, the best in the place. It was ten years old, and full of apple and pear trees, but they were wild ones transplanted. None of the apples were so large as a good English crab, and the wild Bergamot pears were not much larger. They tasted something like the quince, and were useless except to preserve for eating with roasted meat. Among other trees were the walnut acacia, the bird-cherry, a thorn with a berry larger than is commonly seen in England, and called *résan*; the *boyarka*, or service tree, with bunches of berries like grapes; and the beech tree. Among the shrubs, plants, and flowers were wild white lilac, raspberries and currants and strawberries, dahlias, verbenas wild peonies and pinks; and among climbers the wild pea and the Siberian vinegar plant. These, with many other flowers of which I did not know the names, made a considerable show for Khabarofka, where the cold winds begin in the middle of September, and snow lies on the ground from November to March. In the neighborhood there was no lack of trees common to a region more temperate than that I had left at Nikolaefsk, such as the oak, the maple, alder, larch, pine, poplar, willow, lime, etc. The temperature had become warmer in approaching Khabarofka, and this improved farther south.

I left the town on Friday, September 5th, in the middle of the night, in a small

steamer called the *Sumgacha*, ninety feet long, drawing three feet of water, with Belgian engines of forty horsepower. Towing a barge behind with third-class passengers and cattle, she could make five or six miles an hour against the stream and eight with it; but without the barge she could go ten miles against the stream and sixteen with it. The chief private cabin, measuring six feet long by four broad and seven high, draped with Brussels carpet, was given to my sole use and advantage.

The Ussuri at Khabarofka measured nearly two miles in width, having at its confluence with the Amur three islands and two sand-banks with a depth of ten feet. With regard to all the soundings of the Amur and Ussuri, however, it must be remembered that they vary a good deal according to the season. On the Shilkah our boat drew only thirty inches of water, but we ran aground, and the men had to jump overboard in the river, up to their waists, and get the boat off. When we reached Blagovestchensk, the river was, I should judge, at least thirty feet below the plateau on which the town is built; but on my return journey I heard that Blagovestchensk was flooded, and that the river had risen to an estimated height of nearly forty feet. Telegraphic communication was stopped, and there existed the greatest anxiety as to the condition of the inhabitants. I left Khabarofka on September 5th to ascend the Ussuri, which at its mouth is nearly two miles in width and ten feet deep. In ascending the river the right bank is Chinese territory, the left Russian. The Chinese bank is for the most part flat; but the horizon is bounded by low mountain peaks. The left, or Russian bank, is mountainous and richly wooded, and is formed of the western slopes of the coast range, which serve as the watershed for a number of streams, such as the Chirka, Bikin, Por, and others, which flow into the eastern bank of the Ussuri. At the confluence of the Chirka the river is a mile and a quarter wide. For thirty miles farther the mountains retire, and the bottom land thus left is richly though not thickly wooded with aspens, willows, oaks, and elms. We passed a few Goldi habitations where they were cultivating millet, and at a station called Kozloff-

skaya was a church and a telegraph office. I called upon the priest, who, if not

"To all the country dear,

Was passing rich on sixty pounds a year!"

His parish extended along the river's bank thirty miles to the north and fifty to the south, and he had to minister to ten villages. To the most distant he goes eight times a year, to the others once a month. Most houses in the village had gardens, in some of which maize was under cultivation. There was also a private chapel built by one of the merchants. At a distance of 260 miles from Khabarofka we arrived at a station called Krasnoyarskaya, where we saw in the person of a man and his wife the last of the Goldi. The former had a Manchu matchlock of clumsy manufacture, and of the woman I bought a nose ring. Many of the Goldi I found were gone to the mountains to seek *ghensing*, a valuable medicinal plant, for which the Chinese in a bad year will give upward of forty sovereigns per English pound. On the fourth day, at a distance of 260 miles from Khabarofka, we reached Busse, having passed ten tributaries on the right bank and seventeen on the left. We were now to turn into the principal affluent of the Ussuri, called the Sungacha, but before doing so I would observe that the Ussuri is navigable several miles south of Busse, and could a railway be made from Vladivostock to the most southern navigable point, a means of communication would be made for the carriage of merchandise and passengers which would be of vast importance to the fertile lands of the sea-coast province. The total length of the Ussuri is 497 miles.

The upper part of the river has a rapid course, so also the current is swift immediately below the confluence of the Sungacha; but toward the mouth it has a current of two knots only. Its water is black and turbid, but presents no special difficulties to navigation. Its scenery has not the grandeur of the Amur, which combines the beauties of the Rhine and the Danube, and which, taken all in all, is the finest river I have travelled; but the Ussuri has a quiet English park-like scenery of its own, which never wearies. Its waters are full

of fish, and the banks abound with game, as they do also, it must be added, with tigers. These animals used to enter the town of Vladivostock. My host had a horse eaten by them, and sixty-five were said to have been killed in the district in 1878. I was offered some of their skins for five pounds each.

At eleven o'clock on the morning of Tuesday, the 9th of September, we entered the Sungacha. This river is the most considerable of the tributaries which flow into the Ussuri. It is from 50 to 80 feet deep, and from 100 to 110 feet wide. In some places it is barely 100 feet wide, and in two places only eight to ten feet deep; so that our steamer, which was ninety feet long, had only just room to turn round. What struck me, however, as, perhaps, the most remarkable feature of this river was its winding, tortuous course. The distance from its outflow from Lake Khanka to its fall into the Ussuri measures in a direct line sixty miles, whereas by the current of the river it measures nearly 180. I do not think we passed a single half-mile of water in which there was not a bend; consequently great skill was required in steering the barge tugged by the steamer. So contracted were some of the curves that, when the steamer had turned the bend, the two crafts were proceeding in opposite directions. Speed had to be slackened quickly, but even so the barge not unfrequently ran into the muddy bank, and temporarily stuck fast. I saw turtles in the Sungacha. They are numerous there, and lay their eggs on the margin of the stream. The Russians do not eat the turtles, but the Goldi are said to do so. The current of the Sungacha is about two knots; its waters abound in fish, and its banks with game. We came to one station only on the first day, which was the last collection of houses that could be dignified with the name of a village. It was called Markova. All the stations beyond this point were Cossack pickets, consisting of one or perhaps two houses, at which a supply of horses is kept for the postal service in winter, or when the water is low in summer. There were six of these pickets beyond Markova, thus making a total of thirty-six stations between Khabarofka and Kamen Ruibolof, or the "fisherman's stone." Among these

there are four villages in which there is a church—namely, Kazakevich, Ilyinska, Kosloffski, and Venukova, with a priest to each of the first three. There are likewise among the stations twenty-one Cossack stanitzas, containing from one to a hundred houses each. I heard also of ten stanitzas and three churches between Ruiboloff and Kladvostock. Markova was a Cossack stanitza, and as we stayed there for an hour or two I took a peep at Cossack life. Cossacks of old were warlike people, who lived on the border and ravaged their neighbors' herds. When the Amur came into the hands of the Russians, General Muravieff took many of the children of convicts, called them Cossacks, and placed them in stations about ten miles apart all along the Amur, and gave them land, seed, cows, horses, and general farming stock for a year, after which time they were expected to take care of themselves. If, however, they were very poor the Government helped them again, and the result has been, in too many cases, to make them idle. These Cossacks, to a considerable extent, have the privilege of self-government. Ten per cent of them must be engaged in active service continually for two years, and all of them are drilled for one month in every year. During the rest of the year they are supposed to farm or hunt, though they are liable to be called up in time of war, almost to the depopulation, of course, of whole villages. This service would appear to be not unpopular, for when, some time since, the Government wanted 800 men to found a colony on the banks of Lake Khanka, they had no difficulty, I was told, in getting the requisite number of volunteers. Under ordinary circumstances the duty of the Ussuri Cossacks is to watch the border, and keep off the Chinese smugglers and traders, who are not allowed to settle on the Russian bank except under proper restrictions. The village of Markova consisted of from twelve to perhaps twenty houses, of which only seven were inhabited. I entered some of them, and was struck at once with their cleanly and orderly arrangement, as compared with the houses of the Russian peasantry. In the first I entered the floor was strewn with hay; the walls were whitewashed, and on one of them was displayed a quantity of

table ware, consisting of seven forks, four spoons, and a ladle. There was also a plate shelf with teapot, slop basin, two dishes, and four plates, a mug, cup, and two glasses. Near the door hung a bundle of squirrel skins and a sheep-skin coat, while in a corner was a well-known feature in every Cossack's house, in the shape of a handmill for grinding corn, which was turned by the Cossack's wife. There was, however, a larger mill in the village turned by horses, with the slender result of grinding 3 cwt. of meal a day. Here I was shown rope made of lime-tree bark, good for use in the water, and large fish-hooks on which the silly fish of the Sungacha obligingly hook themselves while playing with the float. In another house was a Cossack's hunting gun with a two-legged rest, and discharged by flint and steel, which they are said still to prefer to modern gun-caps. In a third house I bought some hazel-nuts, and then took my departure. At no part of our journey had the inhabitants of any kind been other than few; now the country was all but uninhabited. Our ceaseless windings on the river were continued for the remainder of Tuesday, and on Wednesday morning we stopped at a picket with two houses on the river's bank, and a post-house at a little distance. About six in the evening we came at the edge of Lake Khanka to Lon Maon, where on the right bank were two small Chinese houses. They appeared to be inhabited by men only, who were in a very dirty condition. They had a separate room, with a heavy stone for grinding corn, and a well-made wicker shovel. The roof was thatched, and the chimney, standing at two or three yards distant, was made out of the hollowed trunk of a tree with mud plastered at the bottom. In a yard was a cart with clumsy Chinese wheels; bricks, made of mud or rushes or grass, were drying in the sun, and men were busy in pulling hemp into threads. In the garden was a small heathen temple, and not far distant a field of *buddha* or millet, which I attempted to approach across a boggy plot, but from which I had to beat a speedy retreat at the imminent risk of being devoured by mosquitoes. The Ussuri and Sungacha are famous for these insects, as the muslin

blinds of the steamer testified; but we were mercifully delivered by a slight breeze and the comparative lateness of the season. Farther on they were troublesome, but I effectually checkmated these little nuisances by rubbing on my face and hands the essential oil of cloves, a secret I am happy to hand on to all whom it may concern to know. Lake Khanka (spelled also Hinka, Kenka, Khingka) extends between $44^{\circ} 36'$ and 45° north latitude; it is sixty-five miles long, and twenty-one at its narrowest and twenty-six at its widest parts. The north-east and north-west shores of the lake are level and wooded; the south-west shore is also wooded, but not so the shores on the south and south-east. At the north-west a small stream, called the Toor Balankhe, enters the lake; another at the south-west; another below the Sungacha, on the east; and the largest, the Lifu, at the extreme south. On the north shore a low sandy strip of land separates the Khanka lake from the small Dobuka lake, lying within the same basin, and estimated at twenty miles long by three miles wide. The Russian and Chinese frontier crosses the lake in a north-westerly direction from the Sungacha; consequently the northern shore is in Chinese territory. There is, however, a Russian post station at the northernmost point, and there are three on the western shore, to facilitate the carriage of the mails in winter or when the steamer is stopped for lack of water. I was warned that I might be in difficulties if I arrived at the lake at low water, unable to speak Russian or Chinese, and without means of proceeding. My host at Nikolaefsk had, under similar circumstances, and for want of a better charger, to ride on the back of a cow. I suppose that the lake is sometimes rough, for the good-natured captain kindly inquired whether I should be afraid if the boat rocked about, and the windows were as solemnly closed and battened as if we had been going to cross the Atlantic. Toward night we steamed into the lake, which was calm as a mill-pond, and steering S.W. for about fifty miles, we reached Kamen Ruibolof at dawn, having completed a distance of 466 miles from Khabarofka, or of 510 miles if we had gone to the stations on the shores of the lake.

I had now to drive nearly a hundred miles in a springless, seatless, roofless conveyance to the river Sooiphoon, through a country singularly fertile, but almost uninhabited. The first three stations (Mo, Vstrechni, and Utosni) were merely single houses placed there for the postal service, with the poorest accommodation. After leaving the fourth station (Doobininskaya) I passed through some enormous plains covered with luxuriant herbage, a patch of which was cultivated here and there, and a haystack piled, but cattle and people rarely appeared. At the fifth station (Nikolsk) was the 3d Ussuri battalion and a telegraph office. The sixth stoppage was Baranofskaya, or the sheep station, where they had fires to keep off the insects or tigers, or both; and in a few hours I reached Rasdolni, where I found a small steamer, drawing only twenty-four inches of water, to carry me thirty miles on the Sooiphoon to Richnoi, in the Amur Bay. Here I was transhipped into a larger steamer, and after twenty miles passage brought to Vladivostock. Vladivostock, which signifies the "command of the East," is situated among the inlets of Peter the Great's Bay, and is the prettiest and busiest town I saw in the Amur region. Its population was given me as 5000, but this must vary according to the number of soldiers and sailors in the port. The houses are chiefly of wood, and there are both military barracks and winter barracks for the seamen of the fleet. There is an officer's club, two high-class schools for boys and girls, and a Russian church. In addition to these, a Lutheran church and a school for the poor have been built through the exertions of the governor, Admiral D'Erdmann, and his wife. There is also a telegraph station, a dockyard, some earth fortifications, and the governor's house, in which last I am not the only Englishman who has been hospitably entertained and who has received a kindly reception. The officers of H.M.S. the Iron Duke had dined there shortly before my arrival, and had left behind them golden opinions.

During my stay at Vladivostock I gathered information of the sea-coast province, and its various resources. Among minerals, it seems that in 1878, from the mines at Dui in Sakhalien, which are

worked by convicts, there were obtained 70,000 tons of coal. The produce of gold in the province for the same year was a quarter of a ton, but this small amount was due to lack of workmen. During the summer of six months and a half there were produced in the Ussuri district 1000 tons (59,603 poods) of corn, and 800 tons (49,635 poods) of potatoes; but this does not include all. Manufactured goods also were brought to Vladivostock to the value of 100,000*l.*, of which 40,000*l.* worth were transported into the interior. There were in the town 80 merchants of the first guild, 185 of the second, 228 temporary merchants, 215 first-class clerks, 209 second-class clerks, the trade of the place representing, if I mistake not, an increase of 20 per cent on that of the previous year. I am not quite sure, however, to what particular branch of trade this increase is to be apportioned.

I heard wonderful things of the natural products of the district. My host told me that he had raised potatoes twice between the middle of April and October from the same ground in the same summer; and that in the interior grapes, carrots, and parsnips grow wild. He had raised bushels of tomatoes, but being unable to sell them to his satisfaction, he had salted them and given them to his cows. In the market I observed potatoes, pumpkins, celery, beetroot, the egg-plant, onions, and Chinese radishes. Seaweed, or cabbage, is taken away from the neighboring bays to the amount of 3000 tons (200,000 poods) a year. The riches of the animal kingdom appear to be equally plentiful. Deers' horns are taken from the animals when full of blood, and transported yearly to China in great quantities. My host told me that on one occasion he had his little schooner laden with them to the value of £2000, one good pair alone being valued at £60. In the interior, I was told, wild turkeys are to be met with, and ducks without number. Woodcocks at Nikolsk cost from 10*d.* to 1*s.* each; riabchiks or black grouse, 5*d.* each; and pheasants like our own, 6*d.* each. So plentiful were pheasants in 1875 that they could be had at 7½*d.* a pair, and at Paaseat for 2½*d.* each. Venison in winter sells for from 1½*d.* to 2*d.* a pound. But

space forbids my entering into details.

I have endeavored rapidly to describe my travels across Europe and Asia. The journey was accomplished in less than five months, and I reached the coast of Japan a few days after Professor Nordenskjöld finished his memorable tour round the north of Siberia. I was, in fact, lying weather-bound off the coast when the Professor was being fêted at Yokohama. Geographically considered, I cannot but feel that my paper lacks completeness and precision; but I did not travel primarily as a geographer. For some years past my summer holidays have been spent in the visitation of European prisons, and I went last year across the north of Asia doing the same. I am pleased to repeat here what last spring I stated in the *Times*, that I found them in a much better condition than is generally supposed. One of the worst features in the majority of Siberian prisons was the lack of work for the prisoners, and in most cases they had nothing to read. I was specially anxious to remedy the latter defect, and took with me many thousands of Bibles, New Testaments, and other books, which I left with the authorities to be distributed according to written instructions. I thus was enabled to provide that some portion of Holy Scripture should be placed in every room of every prison and every hospital in all Siberia. Besides this, I was able to sell and give many others to the exiles, soldiers, Cossacks, and seamen of the Siberian fleet, to the number in all of more than 50,000 publications, chiefly in Russian, but including Polish, German, Tatar, Mongolian, Finnish, French, and Hebrew. Everywhere I found both authorities and prisoners abundantly willing to accept our books. We had one striking instance in which prisoners even bought them. As we ploughed along the Obi there was tugged at our stern a barge laden with convicts, to which Dr. Johnson's definition of a ship as "a prison afloat" would with accuracy apply, for the barge was a large floating hull called the *Irtish*, 245 feet long and 30 feet beam, 11 feet high from the keel to the deck, with a four-foot water line, and seven feet above. It was made expressly for the transport of convicts, of whom it was intended to carry

800, with 22 officers. At one of our stoppages I was trying to make a sketch of this unique craft, when an officer came up and invited me inspect it. We went on board with hands in pockets full of reading matter for distribution. The prisoners were far from rude, but so delighted were they with the pictures on the books, and so eager to get them, that we found it hard work to hold our own. We had afterward an opportunity of testing the value in money of this apparent eagerness for reading material. In former years I had always given both Scriptures and tracts. This year it was urged, and I think urged truly, that it is better, when possible, to sell them. To offer them, however, for money to convicts seemed almost a mockery. Nevertheless, we tried it, and requested the officer to let us know how many prisoners would like to give 2½d. for a copy of the New Testament or the Book of Psalms. To my surprise, he came at a subsequent stopping-place, bringing the money for forty-four copies, and said that one man was in such haste to get his book that he had been to him three times to ask for it. As we proceeded on our way, and looking back, saw the broad keel of the barge ploughing its way after us, we could not help thinking of its strange freight, and the many heavy hearts that were being tugged along farther and farther from the dear place called home. But such thoughts re-

ceived little enlargement at the halting-place, when the barge was drawn up to the bank, for the hilarity among the men, women, and children was much more noisy than that of the free people on the steamer. The convicts seemed to be having a good time of it, and it had been observed to us at Tiumen as a noteworthy remark, that although of the 800 prisoners on board, probably 250 would be murderers, nevertheless twenty soldiers would suffice to control them. They had a considerable amount of freedom on board, though they could not go, of course, indiscriminately to whatever part of the vessel they pleased.

It was this pursuit, rather than that of geographical study, which took me through Siberia, and gave an object to my travels which greatly enhanced their enjoyment. The summer climate of Southern Siberia is delightful; and I know not how to speak highly enough of the hospitality and kindness of its people. From the time that I crossed the Prussian frontier, and obtained my official letters at St. Petersburg, to the time I steamed out of Vladivostock in a Russian man-of-war, I had hardly a wish that was not gratified. I went where I would, and almost when I would. Everywhere the greatest kindness awaited me, and I shall long remember the Siberian part of my tour of the world as one of the happiest journeys of my life. —*Contemporary Review.*

LIFE AND DEATH.

BY JOHN FRANCIS WALLER.

I.

O LIFE ! O Death ! Ye dread mysterious twain,
 Baffling us from the cradle to the bier ;
 Phantoms that fill our souls with strange, vague fear,
 Elusive as the forms that haunt the brain
 Of the sick raver. Question we in vain
 The lore of all the ages, sage and seer,
 To answer why and who ye are, and clear
 The clouds that round you evermore remain.
 Whence come ye ? Whither go ye ? None may say—
 One leads man walking in an idle show
 Along the myriad paths of joy and woe
 To where the other waits to bear away
 The enfranchised Soul, that chartless Ocean o'er,
 To the dim land whence man returns no more.

II.

O Life! O Death! How good ye are and fair,
 As, luminous in the glory of God's love,
 Ye stand revealed His Angels from above!
 Angels we've entertained, though unaware—
 The janitors that wait our souls to bear
 Through either gate of Being; not to rove
 Unguided, but in course prescribed to move,
 Fixed as the planets' paths that roll through air.
 In Christ's "dear might," your Lord and ours, now bold
 With reverent courage, lo! the veil we raise
 Erst wrapped around you, and with wondering gaze
 Your solemn beauty undismayed behold,
 No more dread mysteries, our souls to scare,
 Making Life Vanity and Death Despair.

III.

Life is no sleepless dream, as poets sing;
 Death is no dreamless sleep, as sophists say,
 A deeper wisdom tells us, brothers they,
 Loving, though parted until Time shall bring
 The twain together in their journeying,
 To part no more, on that supremest day,
 When Heaven and Earth and Time shall pass away,
 And Christ shall reign o'er all as God and King.
 Yet, till they meet, there stands a third between,
 A brother, like yet differing from each,
 And he is SLEEP, whose mission is to teach
 What Life's and Death's less mysteries may mean.*
 Till, Life's watch o'er, we "fall on sleep," to spring
 To deathless Life through Death's awakening.

Blackwood's Magazine.

THE MYSTERY OF THE PEZAZI—A SKETCH FROM CEYLON.

BY MRS. E. H. EDWARDS.

I AM no believer in the supernatural, and in the face of the apparently inexplicable circumstances which I am about to relate, am persuaded that they could be accounted for in some way, though whether scientifically or by what other means I must confess myself at a loss to determine.

I had certainly never expected to meet with anything approaching a ghost or a "mystery" in Ceylon. One generally associates the supernatural with ancient habitations—ancestral mansions, deserted chambers in baronial halls—peculiar to the "old country" or the Continent. The cold dark nights of the Christmas season, or the waning twilight of a mid-summer's eve, are more suggestive of ghostly appearances and weird sounds than the blazing sun of the tropics,

and the warmth and verdure which lend a cheerful brightness to life in the East.

But I suppose all countries and climes are alike liable to be surrounded with that indefinable air of mystery which seems to have had its existence from time immemorial, and its ascendancy to a greater or less extent over all natures. Few places but have their legends and stories attached to them, and Ceylon is no exception to the rule; indeed, the natives are imbued to a more than ordinary degree with superstitious feelings; but if I were to go into a dissertation upon their strange customs and fancies I might fill pages, for which, with the pres-

* Ὅτινος τὸ μικρὸν τοῦ θανάτου μυστήρια.
 —MENANDER.

ent matter in hand, have I neither time nor space.

In the following account I wish to state that every circumstance related is strictly true, and I invite the attention of those who may be able to render a possible explanation of facts for the personal experience of which I can vouch, and for a solution of which I have repeatedly sought, but to the present time without avail. The occurrences to which I allude took place on the night of the 28th of August, 1876. It may be as well to state briefly, first of all, a few preliminaries which bear upon the matter.

We were residing on one of my husband's estates in the outlying district of Ouvah, some thirty miles distant from the little up-country town of Badulla, destined, however, at some future day to become no unimportant centre in connection with railway extension. On an adjoining property we had long contemplated erecting a bungalow more suited to our requirements than was the little abode we then occupied, which was very small and homely. In the beginning of 1876 we designed the plan, and made arrangements for the commencement of the building. But a drawback existed to the speedy completion of the work in the fact that the indolence of the native is so great that, without constant supervision, he is not to be depended upon, and my husband soon found that his masons and carpenters were no exception to the general rule, and that his occasional visits did little to expedite the progress of the bungalow.

After some persuasion I was induced to leave "Mausa-Kellie" and remove into the new bungalow on "Allagalla" estate, in order that we might be on the spot, and so hasten its completion. Had I not felt tolerably secure in the prospect of an uninterrupted continuance of fine weather, I should have quit-
ted my quarters at "Mausa-Kellie" more reluctantly than I did, for they were at least comfortable; and in going to our new residence we had to be fully prepared for "roughing" things in a way I, at least, had never done before. But the season was advancing, hotter and dryer each day, and on the Ouvah side of the hill district the weather is much more to be depended on than in the parts adjoining Kandy. On the latter side both

the southwest and northeast monsoons are felt, and nine months of the year are more or less rainy. In Ouvah the southwest or little monsoon is not so perceptible; a thunderstorm or two, or a few heavy showers just about that time of year, may serve to remind one of the season; otherwise the weather is fine and dry, almost without intermission, from January to September.

The physical characteristics of this locality are somewhat peculiar. Although the estates adjoined, and the bungalows were not more than a mile or so from each other, the distance to be traversed by the bridle-path which led round the base of the hills, a range of some extent, was at least four miles. On foot, by a stiff climb, the ascent from "Mausa-Kellie" and the descent into "Allagalla" could be accomplished, the estates being situated on opposite sides of the hill. As this route was scarcely practicable for a lady, and I had no desire to expose myself unnecessarily to the fatigue of a ride in the hot sun, I had not previously visited the site of our new building, and certainly felt somewhat staggered at the appearance things presented on my arrival there.

I had sent over a sufficiency of furniture and household necessities for our requirements, and E—— had spent the day in making the best arrangements he could for our comfort, but the scene of bustle and confusion which met my eyes when, turning a sharp angle of the road, I came suddenly in full view of the bungalow, exceeded all my anticipations. The estate was one of the steepest in the district; indeed, no suitable site for a bungalow could be found without considerable excavation, and this gave it the appearance of being built upon a ledge of rock, the sides descending almost perpendicularly to some depth. From its peculiar situation we might not inappropriately have designated it the "Eagle's Nest." That part of the estate on which the bungalow was built being a new clearing, and some of it only just burned off, the immediate surroundings were not very attractive; but the adjacent ground—
young and old coffee on the lower parts, patina on the summits of the hills, dense jungle crowning some of the ranges, tufts of scrub and forest dotted here and there on others, and the

gradual slope of the valleys between each range toward the wide expanse of low country a few miles farther below—combined to form a prospect as magnificent as any I had ever beheld.

Just below the bungalow I came to a standstill: the road suddenly terminated, and an almost perpendicular bank stood up before me. "Cock Robin," however, was better acquainted with the spot than I was, and doubtless divining my hesitation, took his own way, went straight at it, and, floundering up, landed me safely on the levelled compound above, amid a confused litter of bricks, sawn timber, heaps of lime, pools of mortar, stones, tools, masons, carpenters, and coolies, a conglomeration of various implements and races, Malays, Tamils, and Singhalese of every stamp and caste being congregated together in almost equal numbers.

From behind this motley assemblage a heavily-bearded visage was soon distinguishable, and a familiar figure emerged, its burliness scarcely diminished by a suit of white jungle clothes, and the light of amusement inclined to beam out of the dark, kindly eyes as they rested on mine, and descried the consternation and disgust which must have been very vividly pictured in them. When, at length, after dismounting, I managed with my husband's assistance to surmount the various obstacles in our way and reach the bungalow, I was even more dismayed, for although he had prepared me for finding things in an incomplete and disordered condition, my imagination had scarcely realized the veritable chaos which the scene before me presented.

The building was, or rather promised to be, a fine large bungalow, containing several lofty rooms, a spacious smoking hall, and broad verandas. But the plan was only just marked out by stone pillars and partially-built walls—even the roof was not shingled all over, and through the open rafters here and there the sun blazed fiercely in. The only room which was really in a habitable state was the office, and that could just boast of four walls which were already dry and whitewashed; but even here the doors were not put up, and pieces of coir-matting, hung before the apertures, were improvised as curtains in their

place. The room was, however, sufficiently large to admit of our using it as a sleeping apartment; we migrated into the various rooms by turns with our dressing paraphernalia, and the few articles of dining-room furniture indispensable to our needs were placed day by day wherever we found it most convenient to sit down to our meals. How I resigned myself during so long a period to the many drawbacks to comfort I then experienced I find it difficult in the retrospect to conceive. But whenever I felt a disposition to grumble I had only to look from the front veranda to dispel every feeling of impatience and discontent. The magnificent panorama before my eyes almost surpassed description.

"Allagalla" being situated at the very extremity of the district, the termination of the various ranges of hills around afforded us the view of a wide expanse of low country, extending to the right and left as well as before us.

Directly opposite, stretching away for miles toward the beautiful port of Trincomalee, it lay wrapped in an unbroken stillness. Some idea of the remarkable purity of the atmosphere may be formed from the circumstance that on a clear day the sea-line can be distinctly traced on the horizon at a distance of more than seventy miles, looking like a silver thread—the white foam of the advancing and receding waves even perceptible at times to the naked eye. To the left lay the watery plains of Aloom Newara—the Bintenne fields, where the snipe flock in numbers as the season approaches, affording good shooting for all lovers of sport. Beyond, dimly fading in the distance, the broken peaks and summits of the Kandyan ranges reared their lofty heights—Mchadamahanewara, the Knuckles and Hewahette, and even portions of the Nitre Cave and Kalibooka districts being visible sometimes. Immediately below we could trace at intervals portions of the white line of high road passing to the right through the paddy fields of Beebola, and onward through the park country; by many deviations from the straight line to Batticaloa, one of the hottest ports in the island.

I found "Allagalla" a most lonely abode; it was so far from any other

estate, or rather bungalow (for estates adjoined it in more than one point), that we rarely saw visitors, especially as we were in such confusion with the building operations that we could not entertain. E—— being secretary to the Medical Aid Committee at that time, and a member of the Planters' Association, had many public meetings to attend in the district; and the visiting of his own properties, both in the immediate neighborhood and in other districts, made his absences very frequent. But I was thoroughly accustomed to jungle life, and, except on his trips to any great distance, rarely cared to accompany him, the long rides in the hot sun being so trying to me. I had plenty of resources for occupation and amusement in my work and writing, drawing and books, though I often longed for my piano, which of course had been left with our other goods at "Mausa-Kellie;" my poultry-yard and flower-garden too were still in prospect at "Allagalla," and I missed them considerably. But, on the whole, night was the only time when I really did feel the loneliness and solitude almost more than oppressive. Even when my husband was at home the weird aspect of the surroundings had always an unpleasant effect on my nerves, and it was sometimes with an unaccountable sort of shiver that I rose from my comfortable rattan reclining-chair in the veranda to retire for the night, when he had fallen asleep in the opposite long arm-chair.

To stand on the levelled space in front of the bungalow on a bright moonlight night, and gaze around, gave me a shuddering sensation of something "uncanny" about the place. The black, overhanging rocks above—the "devil's rocks," as they were called—looked blacker in the shades of night; the charred trunks of felled trees in the clearing stood out in huge shapeless bodies here and there, the few remaining branches on them projecting like phantom hands and glinting in the fitful moonlight; the chasms—and there were many—had the appearance of unfathomable depths; and the sharp outline of the rugged hills against the sky made them resemble impending masses in close proximity, ready to close upon and overwhelm everything within

their range beneath their stupendous weight.

Before we took up our residence on "Allagalla" there had been floating rumors among the natives that a "Pezazi," a "Yakkho"—or in plain English a *devil*—haunted its vicinity, rumors which of course E—— regarded with supreme contempt, ridiculing all the stories which came to his ears.

Still, the apprehension exhibited by the natives was genuine enough, and we had more than one instance in which fear so completely overcame them that they succumbed to its effects. One case, which fell immediately under my notice, was that of a Singhalese lad about seventeen years of age, employed as a servant by the conductor, who became, as the Tamils graphically describe it, "Pezazi poodichidi," or "devil-taken"—as we should express it, "possessed of the devil"—and gave himself up for lost. He had for some days refused to work, and hung about the compound in a state of abject terror, which increased on the approach of night. Soon he betook himself to one of the go-downs belonging to the bungalow, where he lay in a state of partial coma, trembling and quaking in every limb, and refusing all offers of food or medicine. Unfortunately, at that time the appointment of a medical officer to the district had not been concluded, so that no professional help was at hand. Persuasion failing, threats and even force were resorted to, but without effect; nothing would rouse him, and all that could be gathered from his miserable articulations was a kind of incoherent entreaty to be left to his fate; it was useless to make any effort to rescue him from the grasp of the fiend who held him as his victim. On the morning of the third day the unfortunate creature was dead, and laid in his grave before the sun went down.

This circumstance impressed me very unpleasantly, and although I scouted the idea of there being anything to justify such apprehensions as led to the death of the wretched boy, I could not but wish that these notions were less prevalent among the natives, as it became quite disagreeable having the servants and coolies in a state of continual trepidation, and circulating the most improb-

able stories among themselves and their neighbors.

I observed, however, that those natives who professed Christianity, both Romanists and Protestants, exhibited no symptoms of fear, neither were they so credulous as the Buddhists. The Tamil coolies appeared more superstitious than any, impressing upon one the generally received opinion, which has almost become an axiom, that the greater the ignorance, the greater is the superstition.

The memorable night on which the circumstances I am about to describe took place, E—— and I had retired early, as was our usual custom. The servants slept in go-downs outside, built in the compound at the back of the bungalow, and it so happened at the time that the conductor and his family also occupied a go-down, the small bungalow in which he had formerly lived having been recently destroyed by fire.

E—— was never a sound sleeper, and the least noise soon roused him. I, on the contrary, enjoyed my repose, and even when dawn of day urged the necessity of rising if we would have a refreshing half hour before the sun burst forth in its tropical heat and dried up all the dews of night, would fain have lingered in the transition state between slumber and wakefulness, when, knowing that we are in dreamland, we still wish to prolong the duration of that blissful feeling of semi-unconsciousness, and avert for a while the awakening to the stern realities and commonplaces of every-day life.

Thus, wrapped in dreams, I lay on the night in question, tranquilly sleeping, but gradually roused to a perception that discordant sounds disturbed the serenity of my slumber. Loath to stir, I still dozed on, the sounds, however, becoming, as it seemed, more determined to make themselves heard; and I awoke to the consciousness that they proceeded from a belt of adjacent jungle, and resembled the noise that would be produced by some person felling timber.

Shutting my ears to the disturbance, I made no sign, until with an expression of impatience E—— suddenly started up, when I laid a detaining grasp upon his arm, murmuring that there was no need to think of rising at present—

it must be quite early, and the kitchen cooly was doubtless cutting firewood in good time. E—— responded in a tone of slight contempt, that no one could be cutting firewood at that hour, and the sounds were more suggestive of felling jungle; and he then inquired how long I had been listening to them. Now thoroughly aroused, I replied that I had heard the sounds for some time, at first confusing them with my dreams, but soon sufficiently awakening to the fact that they were no mere phantoms of my imagination, but a reality. During our conversation the noises became more distinct and loud; blow after blow resounded, as of the axe descending upon the tree, followed by the crash of the falling timber. Renewed blows announced the repetition of the operations on another tree, and continued till several were devastated. Exclaiming wrathfully that he would "stand this sort of thing no longer," E—— pushed aside the matting overhanging the doorway, and passing through a couple of rooms and a passage stood in the back veranda and shouted for the appoo and the conductor. I remained within, listening in mute astonishment to what was passing. It appeared that both conductor and servants were all awake, and I could hear the wailing of a child, followed by the sound of a woman's frightened weeping from one of the go-downs outside. E—— was the first to speak. In imperious tones he demanded what the conductor meant by allowing such a disturbance at that hour—why did he not put an immediate stop to it? The conductor's reply was given without hesitation, deferentially enough, but with no attempt at evading the question. His English was not elegant, but at least explicit. "I should be very glad to stop it, sir, if I could, but I can't. It's no one at work, sir—it's the devil."

I confess that my nerves were not proof against this startling announcement. I sought companionship. Throwing on my dressing-gown I quickly proceeded to the veranda, looking at the clock on the sideboard *en passant*. The hands pointed to 2.55 A.M. Sufficiently convinced that there was something very extraordinary going on, I joined E—— in the veranda. The conductor, head appoo, and several of

the other servants were standing outside in the compound. All this time there had been no cessation of the sounds. The regular blow of the axe and the crash of the falling tree went on without intermission. For the moment, as the conductor ceased speaking, E——'s utter astonishment almost took away his breath. This was succeeded, as he has since admitted, by a cold chill, which crept imperceptibly over him as he stood there, and seemed to paralyze his powers of articulation. Hastily rallying himself, with rising anger, he found utterance.

"Conductor, do you take me for a fool, or am I to consider you one, to believe in such humbug as this? I looked upon you as a man of some sense, but you appear to be as foolish as the coolies. You know as well as I do that the devil doesn't play practical jokes like these, and that no such person as the devil is allowed to go about as these ignorant people describe—that it is simply a tissue of humbugging superstition."

The conductor shook his head. "He was very sorry to lose master's good opinion, he had no wish to believe in the devil, he did not believe in the devil, at the same time he could not account for the sounds. No person would dare to be in the jungle at this hour, in such darkness, therefore no human being could make them;" *ergo* the devil must! Logic certainly, but not convincing enough for E——. Exasperated beyond control, he called for his gun, and shouting in Tamil that he was going to fire, discharged both barrels in the direction whence the sounds proceeded—the strip of jungle almost adjoining the compound, so close was its proximity to the bungalow. The sounds became fainter; suddenly stopped. Congratulating himself upon having "settled" the devil, for the present at any rate, E—— reloaded his gun, and sending the servants to their rooms we returned to our own, to compose ourselves to slumber again if possible; but I am fain to confess that my apprehensions were quickened and my nerves by this time quite unstrung. Anything tangible one might grapple with and surmount, but this mysterious intruder baffled and filled one with undefinable dread—of what, it was impossible to conjecture.

Some time elapsed, it may have been a quarter of an hour, and my quakings having somewhat subsided, I was dropping off into a restless doze, when suddenly a whole battery of blows resounded in the immediate vicinity, succeeded by thundering crashes in quick succession. Then came a violent rush of wind, followed by a volley of what seemed to be missiles, in the shape of stones, sand, and other loose materials hurled down upon the roof of the outside buildings with the noise of a hurricane.

The sudden alarm almost deprived me of my self-possession, and E—— could scarcely repress his indignation, so firmly did the conviction rest in his mind that human agency was at work. His muttered imprecations were not a few, and I pitied the poor "devil," whoever he might be, who might at that moment have fallen under the lash of his vengeful feelings.

After this we heard no more, the fiend having apparently exhausted his displeasure. Daylight came at last, and with it my nerves recovered their wonted equilibrium.

Directly after the matutinal cup of coffee, E—— went out, traversed every part of the small belt of jungle adjacent, and came back thoroughly disappointed and nonplussed with the result of his investigations. Not a trace of a tree having been touched was perceptible, nor was there a vestige of any substance whatever on the roof of the buildings in the compound.

No satisfactory solution of the mysterious noises we heard has ever been offered, and we can arrive at no conclusion. It has been suggested that they may have been produced by an echo. The strip of jungle ascended the hill, on the other side of which was a deep valley. On the opposite side of this valley rose another range of hills, covered with a tract of heavy jungle. This was valuable, as the district did not abound in very extensive forest, and timber was in request. It is possible that the sound of felling in this jungle might be echoed by the opposite hill, but even then other circumstances combined to stultify this supposition; the echo would be heard on the hill where the sounds were made, not on that which

produced it. No felling was going on there at that time, and had any one attempted to fell and carry off timber by stealth, the act must have been detected. Throughout the entire jungle did E—subsequently extend his investigations without discovering a sign of human being having been engaged in any such operation. And then, who would, who could, go into the depths of a Ceylon jungle at dead of night without even a streak of moonlight to direct their steps, for any purpose whatsoever? Most natives are timorous of even walking on the high road in darkness. Lights would have been of little use, and moreover would have been likely to lead to the discovery of their whereabouts. But the main fact remained to overthrow all the possible explanations we could devise—no felling had taken place in any part of the jungle.

This fact goes far also to disprove any supposition which might be urged on the ground of volcanic agency, which would leave some traces of its action. Neither is Ceylon subject to earthquakes or disturbances resultin from this cause, though it is not altogether exempt from them, as, in the autumn of 1874, I myself experienced a shock one night which we found was attributable to a slight earthquake which was felt more or less in different parts of the island.

Time passed on. I was not so brave as formerly about being left alone at night, and that day week E—had occasion to attend a medical committee meeting at Cooroovagalan, and could not return home till the following morning. I might have accompanied him had I felt equal to the ride, but my nerves were in so shaken a state that I could not sit my horse, and had to give up the attempt and remain at home. As night advanced, my fears redoubled. Dinner over, I kept the servants about the bungalow as long as I could, but at length they had finished all I could find for them to do, and, not wishing to display any feelings of nervousness, I was obliged to dismiss them. I could, however, hear them in conversation outside over their rice, and summoned up courage to retire for the night. Just before "turning in" an impulse led me to push aside the curtain over the doorway, and gaze upon the solitude around.

The tall pillars and bare scaffolding, half-built walls and dark corners looked weird and desolate enough; and with a feeling of insecurity I dropped the curtain and extinguished my lamp. The convivial domestics outside had by this time ceased their chattering; all was still, when upon my startled ears fell the unwelcome but familiar sound of a heavy blow—an axe falling upon a tree! Horrified and unnerved, and dreading that the events of the previous week were about to be re-enacted, to what extent I could form no limit or conception, I hastily sought my pillow, bathed in a cold perspiration. Whether imagination or not this time I cannot determine, but if it was the "Pezazi" again, bent upon terrifying us poor human beings, he desisted for that night, and relinquished his intention; for no more of the dreaded sounds did I hear; nor have I, from that day to this, ever been troubled with anything intangible to cause alarm or raise suspicions of a superstitious nature in my mind.

As might have been expected, after this occurrence all sorts of reports and vague stories were brought to our ears, such as that of a mason who, sleeping in an open shed in company with several other workmen, deposed to having actually seen the "Pezazi" in *propria persona*, and went so far as to give a vivid description of his chain, horns, and cloven foot in regular order!

Another man, a Jaffna Tamil, had occasion to sleep in a small store standing alone on the patina some few hundred yards from any other dwelling, and he calmly asserted with great seriousness that nightly did the Evil One pace the narrow veranda in front of his room, clanking his chain, and from time to time knocking for admittance. Samuel, who professed Christianity, stated that on the arrival of this unwelcome visitant from the unknown world, he read aloud his Testament by the light of his solitary lamp, and after repeated unsuccessful demands to enter, the uninvited guest was forced to take his departure, unable to endure the reading of Holy Writ.

All these stories we took for what they were worth; and gradually the natives became less importunate, and, as time went on, the rumors died a natural death.

But the fact remains, and will be forever impressed upon my memory, that the felling of the jungle at dead of night was no conjured-up fancy of a disordered imagination; though to what cause

the sounds were attributable must, I fear, remain an inexplicable mystery, or be put down, as by the natives, to the evil machinations of a veritable "Pezazi."—*Macmillan's Magazine*.

PLAIN-SPEAKING.

BY THE AUTHOR OF "JOHN HALIFAX, GENTLEMAN."

I.—A LITTLE MUSIC.

"WILL you favor us with a little music?"

Such, in my young days, used to be the stereotyped request. And truly the "favor" was small; likewise the gratitude. When the music began the talking began also, louder than ever, and probably only the hostess, standing politely by the piano, was much the wiser for that feeble, florid performance of "La Source," or "Convent Bells," or "Home, Sweet Home, with variations"—very varied indeed. Perhaps, afterward, one or two people condescended to listen to a mild interpretation of "She wore a wreath of roses," or even of "The heart bowed down," and "I dreamt that I dwelt in marble halls." But any one who remembers what was the standard of drawing-room vocalism a quarter of a century ago will understand how the gentle sentimentalisms of Poet Bunn and Michael Balfe sufficed all our needs. A good many of us young folks sang—some in tune, some out of tune; it did not matter much, nobody listened particularly. And some of us could play our own accompaniments—some could not. These last fared badly enough, falling into the hands of young ladies who "had never been used to play at sight," or being hammered into nothing by some wild pianist who considered the accompaniment everything, the voice nothing. And, our performances over, the listeners or non-listeners said "Thank you!" and went on talking faster than ever. All had done their duty, the evening had been helped on by "a little music"—as little as possible—and everybody was satisfied.

This, I believe most middle-aged people will allow, is a fair picture of what

English drawing-room music was like from five-and-twenty to thirty years ago.

In the concert-room things were not much better. There were—so far as I can call to mind—no educated audiences, and therefore no classical repertoires to suit them. Ballads and bravuras, theatrical overtures, and pots-pourris of operatic airs, a few showy, noisy piano-forte pieces, or arrangements for violin and flute—this was the ordinary food provided for music-lovers. Such a bill of fare as nowadays true musicians revel in, of Saturday afternoons at the Crystal Palace, at the Philharmonic, or the Monday Popular, was absolutely unknown. Nobody would have cared for it. I myself remember when Mendelssohn's "Lieder Ohne Worte" were first played, here and there, and nobody listened to them particularly, or thought very much of them. And sixteen years ago I heard a large and fashionable audience in a provincial town keep up a steady remorseless monotone of conversation all through one of Charles Hallé's best Recitals.

People do not do that now. Whenever or wherever you go to hear a Beethoven symphony, you have the comfort of hearing it in silence. Nevertheless, to a great many people might still be applied the withering sarcasm which was hurled at myself the other day, on daring to own to an artist that I did not admire all Old Masters. "Madam, there are people who, if you play to them a fugue of Bach's, will answer, 'Yes, very fine!' but in their hearts they prefer 'Pop goes the weasel.'"

It is in the hope of raising the masses from this depth of musical degradation that I am tempted to use a little plain-speaking.

If we believe, as most of us do, in our

own great superiority to our grandfathers and grandmothers, why not hope that our grandchildren may be superior to ourselves? The old ways are not always the best ways, and the weakest argument one can use against a new thing is its being new. With unalloyed pleasure I admit in how many things I have seen the world improve—even in my own time. For instance, last night I heard a young lady scarcely out of her teens give Handel's "Whene'er you walk" in a thin soprano, certainly, but with perfectly true intonation and correct taste. Her mother accompanied her, and afterward played a page or two of dear old Corelli in a way to refresh any musical soul. And I have lately been staying in a peaceful provincial family, where the father and son sang "The Lord is a man of war" almost as well as I had heard it at the Handel Festival the week before; and where, out of business hours, the whole house was alive with music, one boy playing the violin, another the organ, a third the pianoforte, and all being able to take up a glee or anthem and sing it at sight, without hesitation or reluctance.

Of course this implies a considerable amount of natural musical faculty, as well as of cultivation. The chief reason of the low standard of what may be called domestic music, in England, where professional music is as good as anywhere in Europe, is not so much the lack of talent as of education. A professional musician of long experience said to me the other day that he believed everybody had a voice and an ear—a fact certainly open to doubt. But, undoubtedly, the number of persons, male and female, who have voices and ears, and could—with some little trouble—be made into musicians, is sufficiently numerous to prove that we have only ourselves to blame if the present state of English drawing-room music is—well! all true musicians and music-lovers know what it is, and how much they have to endure.

I once heard a non-musical friend say of herself and another, after listening to an exquisitely-played trio of Mozart's, "It was eighteen pages, and we bore it well!" To which, of course, a laugh was the only possible answer. But the negative sufferings of unmusical people

can be nothing to the positive agonies of those others, blessed, or cursed, with a sense of time and tune, when doomed to be auditors of "a little music." As to the instrumental, one braces one's nerves for what is going to happen; but when it comes to the vocal, one often feels inclined to put one's fingers in one's ears and scream. The torture—I use the word deliberately—that it is to sit and smile at a smiling young lady singing flat, perhaps a quarter of a tone, with the most delightful unconsciousness, or pounding away at a deafening accompaniment, which is sometimes a blessing, as it hides all errors of voice and style! And what patience it takes to say "Thank you!" to a young man who has perhaps a really fine voice and great love for music, but has never learned his notes, and sings entirely from ear. Consequently his unhappy accompanist has to run after him, stopping out a crotchet here, and lengthening a quaver there; abolishing time altogether, and only too glad to be "in at the death" with a few extempore chords. Yet both these young sinners probably consider themselves, and are considered by their friends, as accomplished performers.

There is a delusive tradition that music is an "accomplishment," and those who exercise it must be "performers." Whereas it is an art, or rather a science, as exact a science as mathematics (which, perhaps, accounts for the fact that many mathematicians have been also musicians), and all who pursue it ought to be careful, conscientious, laborious students. Thoroughness in anything is good and right—thoroughness in music is indispensable. While "the pianoforte and singing" are taught merely as superficial branches of education, with a view to showing off, so as to play a well-taught piece or sing a bravura song, so long will the standard of music remain as low as it now is among our young people. They may be performers, after a fashion, but they will never be artists. For the true artist in any art thinks less of himself than of his art, and the great charm of music, to all educated musicians, is that it is a combination art. That is, the aim of it is not—at least never should be—simply to exhibit one's self, but to be able to take a part in a whole, and so contribute

to the general benefit and enjoyment of society. Therefore, a pianoforte player who "hasn't brought her music," a vocalist who "doesn't know that duet—has never learned it," or a part-singer who is "very sorry, but cannot sing at sight," are a style of musicians much to be deplored, and a little blamed. Until music is so taught from the first that every one who pretends to love and practise it shall be capable of doing this in concert with others, of sitting down to play an accompaniment at sight, or reading a part in a glee as easily as out of a printed book, I fear we cannot be considered a musical nation. And it would be better for us if we were, since of all the arts music is the most social, and sympathy therein the most delightful and the most humanizing.

Another superstition of the last generation I should also like to drag to light and annihilate. It was considered right and fitting that young ladies—all young ladies—should learn music, to sing if they could, but at all events to play. Young ladies only. The idea of a boy playing the piano was scouted entirely.

Now, both boys and girls who show any aptitude for music should be taught it without hesitation. Nay, for some things, the advantage is greater to boys than to girls. It is a common complaint—how very helpless a man is without his work! Should sickness or other necessity keep him away from it he goes moping about the house, restless and mournful, "as cross as two sticks," a torment to everybody, and, above all, to himself. Women have always plenty to busy themselves withal—employment for heads and fingers; but men, unless blessed with some special hobby, have almost nothing.

But then, as I said, music must be studied as an art, and not as a mere amusement. Whether or not my clever professor be right, and everybody has a voice and ear, only needing cultivation more or less, still, in many cases, it requires the more and not the less, "Everything that is worth doing at all is worth doing well," and music is one of those things which if not done well is better left undone, for the sake of other folk. A man may hide his feeble sketches in his portfolio, and publish his bad poetry in books which nobody

reads, but an incapable violinist, an incorrect pianoforte player, or a singer out of tune, cannot possibly be secluded, but must exhibit his shortcomings for the affliction and aggravation of society.

Therefore, let no child be taught music who has not a natural aptitude for it. Decided musical talent generally shows itself early. Many children sing before they can speak. I have written down, with the date affixed, so that there could be no mistake, more than one actual tune invented and sung by a small person of three years old. But the negative to these positive instances is less easily ascertained. The musical, like many another faculty, develops more or less rapidly according to the atmosphere it grows in. And there is always a certain period of "grind" so very distasteful that many a child will declare it "hates music," and wish to give it up, when a little perseverance would make of it an excellent musician. I am no cultivated musician myself—I wish, with all my heart, the hard work of life had allowed me to be! but I feel grateful now for having been compelled, three times over, amid many tears, to "learn my notes," which was nearly all the instruction destiny ever vouchsafed me.

Nevertheless, I believe I did a good deed the other day. A mother said to me, "My child is thirteen, and has been working at music ever since she was seven. She has no ear and no taste. If she plays a false note, she never knows it. Yet she practises very conscientiously two hours a day. What must I do?" My answer was brief: "Shut the piano and never let her open it more." The advice was taken, and the girl, who now spends that unhappy two hours upon other things, especially drawing, in which she is very diligent and very clever, would doubtless bless me in her heart if she knew all.

But the love of music, which she had not, often exists without great talent for it. Still in such cases cultivation can do much. Many vocalists, professional and otherwise, have begun by being *vox et præterea nihil*—that is, possessing a fine organ, but no skill in using it. While, on the other hand, many delightful singers, I recall especially Thomas

Moore and Sheridan Knowles, have had scarcely any voice at all. The expression, the taste, the reading of a song are as essential and delightful as the voice to sing it with ; and these last long after nature's slow but inevitable decay has taken away what to a singer is always a sore thing to part with, so sore that many are very long—far too long!—in recognizing this. Sadder to themselves even than to their listeners is the discovery that now, when they really know how to sing a song, they have not the physical power of singing it.

But art, cultivation, and a little timely clear-sightedness—or clear-hearingness—can prop up many a failing voice. Any one who remembers how Braham sang at seventy-five will acknowledge this. A then young, but now elderly musician, once told me how he remembered having had to accompany the great tenor in the "Bay of Biscay," given with a fire and force almost incredible in a septuagenarian, and received with thunders of encores. "My boy," whispered Braham, "play it half a tone lower." Again it was given, and again encored. "Half a tone lower still," said the old vocalist ; "they'll never find us out." Nor did they. And the applause after the third effort was loudest of all, so completely did art conceal the defects of failing nature. But suppose the singer had not been an artist, or the accompanist had only understood a little music, and been incapable of transposing the song "half a tone?"

If music is studied at all it ought to be studied thoroughly, and from the very first. Parents are apt to think that anybody can teach music to a child, and that any sort of piano is good enough for a child to practise on. No mistake can be more fatal. A child who is fit to be taught at all should be taught by a capable musician with intelligence enough to make the groundwork not merely superficial, but solid ; and not only solid, but interesting. A great deal of the preliminary study of music is not at all interesting unless the teacher thoroughly understands it, and takes the trouble to make the child understand it—the infinite and complicated beauty of the science of harmony, in opposition to the dulness of mere strumming. Then

the little soul, should there be a musical soul, will soon wake up—will comprehend the why and wherefore of the most wearisome of scales and the hardest of exercises, and conceive an ambition not merely to "play a piece," but to become a true musician.

The too early playing of pieces or singing of songs is the most fatal thing possible. It substitutes clap-trap for pure taste, and outside effect for thoroughness of study. It is also very bad for the young performer. Many a nervous child can play well enough alone, but if set to show off before a room full of indifferent people is absolutely paralyzed. And an inferior child who is not nervous is probably made intolerably self-conceited by this showing off, which foolish parents applaud and are delighted with, ignorant that the true aim and end of music is first the delight of the musician himself, and next that he should be able, either singly or as part in a whole, to contribute to the delight of other people. Cultivated people first, but likewise all people : for, in spite of my friend's severe remark about "Pop goes the weasel," I believe that the very highest art is also the simplest, and therefore will always touch the masses ; perhaps far more than art a degree lower and more complex. There may be two opinions upon Beethoven's "Mount of Olives," grand as it is ; but I think the veriest clown that ever breathed could not listen unmoved to Handel's "Hallelujah Chorus," or to what, after twenty-five years, I remember as the perfect expression of musical art and religious faith—Clara Novello's singing of "I know that my Redeemer liveth."

It is art such as this, and taste cultivated so as to be able to appreciate it, which I would desire to see put in place of that "little music" which, like little learning, is a "dangerous thing." Dangerous, in the first place, because all shallow and superficial acquirements must be so ; and secondly, because it inclines to a system of personal display at small cost, which is always the deterioration of true art. Surely it would be none the worse for us in England—it is not in Germany—if, instead of each person being taught to sing or play for himself, more or less badly, the general

aim of musical education was that every member of every family should try to be able to take part in a simple family concert—classical chamber music or pleasant after-dinner part-songs and glees.

In the good old times probably it was so. "Pepys's Diary" seemed to imply that in his day everybody could bear a hand, or a voice, in an after-supper catch; and farther back still we have plenty of evidence that the Elizabethan soldiers thought none the worse of themselves for being able, not only to sing, but to compose an Elizabethan madrigal.

But even in my own generation I have seen music advance so much that I have hope in the "good time coming," which often casts its shadow before. It did on me the other day at a garden-party, where one of Mendelssohn's concertos for piano, violin, and violoncello was given by three young people, not professional, in a manner that Mendelssohn himself would have liked to hear. Afterward a brother and sister played a Handel duet—violin and piano—after a fashion that implied many a pleasant evening of fraternal practising. And in the singing, though one voice was a little past its first youth, and the other owed more to cultivation than nature, and the third, which was exceedingly beautiful—well, the luckless accompanist had now and then to count five crotchets in a bar in order to keep time—still every vocalist showed taste, feeling, and expression, and every song was well chosen and pleasant to hear. Between whiles people wandered to the simple tea-table under one tree, and the fruit-table under another, but they always came and filled the music-room—filled it, I am glad to say, with an audience that was *perfectly silent*.

And here let me end with one passionate and indignant protest against the habit which ill-conditioned guests indulge in, and timid hosts and hostesses allow, of talking during music, a breach of good-manners and good-feeling which whenever it is found, either in public or private, should be put a stop to firmly and remorselessly. If people do not like music they need not listen to it; they can go away. But any person who finds himself at a concert, or in a drawing-room where music is going on, and does not pay it the respect of total silence, is severely to be reprehended.

To recapitulate in a few words the aim of this "Plain-Speaking." Let every child, boy or girl, be taught music, or tried to be taught, till found incapable. In that case, abolish music altogether, and turn to more congenial and useful studies. Secondly, let no one pretend to learn music who does not really love it, but let those who do study it well and thoroughly, so far as the work of life will allow, always remembering that the aim of their studies is not to exhibit themselves, but *the music*—for the best of musicians is only an interpreter of other people's language. There are endless varieties of language to choose from; each reader may have a different taste and different style; nay, I will go so far as to say that he who plays "Pop goes the weasel" with spirit, force, and accuracy, is not at all to be despised. But one thing is inexorably right and necessary—let every one who does anything in the science of sweet sounds try to do it as well as he possibly can.

Then, haply, we shall gradually cease to be "favored" with that great abomination to all appreciative souls—"a little music!"—*Good Words*.

THE BUGLE.

FROM THE FRENCH OF PAUL DÉROULÈDE.

THE air is keen, the line is long,
The quick advance rings clear and strong,
The Zouave column chaunts the prayer:
The solemn wood that crowns the hill
Looks down and listens, silent, still—
And Prussians wait us there.

Our Bugle is a battle-bird,
That din of many a flight has heard
Midst shot, and smoke, and fire, and flame,
He flits and wheels with cheerful call,
To rally round when comrades fall—
Brave bird no foe can tame!

Another order! hark the tone!
Oh, never bolder bird was known!
'Tis "death or glory" once again:
Your breath of passion stirs the soul,
And courage rises to the goal,
Where foes too long have lain.

We charge at double, shout, and climb
To where the bullets bide their time.
Ah! now the Prussian sniders speak:
We close in ranks, and now the cry—
"Advance with bayonet, do or die!"
The wood is gained with Zouave-shriek.

A rush, a pause—our Bugle struck!
A moment only—Zouave pluck
Gives never in to aught but death.
Then, sounding high 'mid strife and cheer,
Unconquered notes, and always near,
The Bugle breathes its passion-breath.

And though with breath the red blood glows,
Yet blast on blast the Bugle blows;
His hand clenched round with iron will;
He puts off death some paces yet,
And pressing back each foeman met,
The brave old Bugle leads us still.

Ah! there upon the turf at last
He lies, but still the Bugle-blast
Rings shrill from blood-stained lips that press
Disdaining, stretched on gory ground,
Guarding his Bugle—still the sound
Wells forth, and urges none the less!

And now, upon his elbow leant,
He sees the Zouaves backward bent
On ground where all his blood has run.
Then—not till then—the Bugle stops:
His task is done—he bends, he drops:
Defeat in death—death nobly won.—*Fraser's Magazine.*

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THE NATURAL HISTORY OF DRESS.

It may well seem an act of temerity to undertake to give an account of the nature and causes of human apparel. People are accustomed to think of dress as something utterly capricious and law-
less. The reasons which one might antecedently expect to govern the practices of men and women with respect to clothing seem at first sight conspicuous by their absence. It has been truly ob-

served by a recent writer on dress that "the history of the hat is a true history of the sufferings of the male head, from the kettle-shaped brown helmet to the modern cylinder."

It is this apparent want of rationality in dress that fits it in an eminent degree to be the theme of the cynic and misanthrope. In any case the vast amount of attention given to the labor of covering up and prettifying this poor mortal body would be sure to lead the philosopher to reflect on the vanity of all things human. But when it is added to this that a large part of the toil expended by mankind in clothing itself has brought forth nothing temporarily useful or even intrinsically beautiful, the least amount of reflection is sufficient to discover the rich vein of irony which underlies the subject. Indeed, we know nothing so well adapted to correct a too flattering view of the species as to brood for an hour in serious meditation over a history of costume.

Is, then, the philosophy of dress nothing more than a specially amusing chapter in the cynic's version of life as a whole? Can nothing be said by way of extenuation, if not of justification, of the vagaries of the human race in the matter of garments? We think something may be said. On closer inspection there appears after all to have been a method in the madness of mankind in this particular. Under all that is arbitrary, accidental, and unsusceptible of rational explanation, we may find traces of a sane purpose. The theory of the misanthrope, however picturesque and striking, is, like many other picturesque and striking theories, an exaggeration. Dress has a *raison d'être* over and above the mere exhibition of the stupendous and incorrigible folly of human nature. However mixed up with and disguised by elements of irrational caprice, principles may be detected which serve to redeem the art of dress from the sweeping condemnation of the satirist. Let us take up the cause of humanity in this matter, and see what can be said for its behavior.

It may be well to begin with the somewhat obvious remark that dress is so far natural as it is the extension of one of Nature's own endowments. It is commonly said that man clothes him-

self for four principal reasons: 1stly, by way of protection against external forces; 2dly, for the sake of warmth; 3dly, for purposes of ornament; and, lastly, for moral reasons. Now Nature clearly supplies animals, including man, with the rudiments of dress in the first three senses, if not in the fourth. The horns of many quadrupeds, the beaks and talons of birds, and the nails of our own species, are the germs of a defensive dress. That animals needing to maintain bodily heat are clothed with some form of non-conducting covering is too well known to require mentioning. Finally, the researches of Mr. Darwin and other naturalists have taught us that many features of the animal teguments have been retained, if not acquired, as ornamental adjuncts.

In a large sense, then, dress is based on Nature's own processes, and this simple fact must be sufficient to rescue the art from the charge of being something utterly unnatural and absurd. More than this, it may be said that Nature specially enjoined man to dress himself. By leaving him with less defensive, protective, and ornamental covering than many other animals, she seems to have said that she trusted to his finer brain to invent the means of providing for himself a suitable outfit. In fact, man might quite as appropriately be defined as an animal that has to dress itself as he has been defined as an animal that cooks its food.

We may see the close connection between Nature's clothing and man's artificial clothing in another way. Our hair is perfectly insentient; the hair-dresser can lacerate it without exciting any sensation. Yet we instinctively think of it as part of our sentient organism; and when the skin of the head is sensitive, and pressure on the head causes a disagreeable feeling, we project this feeling to the hair tips. In quite the same way we come to include our apparel in our own conception of our bodily organism. The same psychological principle that explains our localizing sensation in the extremity of the hair explains a lady's feeling a rude disarrangement of her dress-trimmings as though it were a direct attack on her organism. Subjectively, then—that is, in our way of thinking and feeling—dress stands in

the closest relation to the organic productions of Nature herself.

If it is once allowed that dress of some kind is natural to man, it will be impossible to reject the conclusion that, viewed on the whole, the progress of dress, from the first crude tentatives of our primitive ancestors to our modern elaborate costumes, has many points of resemblance to a natural process of development. If there were good reasons for man's beginning to dress himself in the early stages of his existence, there have been equally good reasons for his advancing in that direction. Just as the first *naïve* experiment was adapted to early wants and conditions of life, so, speaking roughly, the intricate system of apparel of the civilized man of to-day is adapted to our present wants and conditions. And the progress from one style to the other, so far as history and other records enable us to say, has been by a series of very gradual transitions, exactly answering to those by which organic forms are now supposed to have arisen.

To give an illustration of this process. The modern shoe has been evolved by a succession of slight modifications and enlargements out of a very simple primitive covering. In the ages of stone and bronze, man appears to have protected his foot by a piece of bark or leather laid under the sole and fastened in a very simple manner about the foot with straps. Out of this grew the sandal with its broader and more elaborate bands, reaching above the ankles, such as we see it represented in the art of ancient Egypt, and later. From the sandal, again, was developed, by the addition of a fine leather below the straps, as well as the broadening of the straps, the germ of the shoe proper, an arrangement illustrated by the Greek half-boot (*κρηπίς*). The completion of this process of development was the doing away with the band, and the making of the upper leather firmer.

A closer inspection of the process by which the art of dress has grown to its present elaborate form will show that it conforms very closely to the idea of evolution as defined by modern writers. It is obvious that dress has a very close connection with the human organism to which it has to mould itself, and of

which, indeed, as has been remarked, it may be viewed as a kind of extension or enlargement. And the development of dress seems to mimic the process of organic evolution itself. We may describe its history in its large features as a gradual process of adaptation to the structure of the body. And this process has, of necessity, imitated that of organic development as now conceived.*

If we take the first rude article of apparel, out of which all dress seems to have grown—the waist-band, or rudimentary apron—and compare it with a modern equipment, we may see at once that the two contrast with one another very much as a low and a high organism. The one is simple, homogeneous, not differentiated into parts, and but loosely adapted to the bodily form; the other is highly complex, differentiated into a number of unlike parts, all of which are closely adapted to the structural divisions of the body to which they belong. The one is the work of the weaver alone; the other implies the constructive work of the seamstress or tailor.

The early and comparatively structureless type of dress may be seen surviving even in classic costume. The outer garment, the *amicus*, which included the male *pallium* (*ἡμάτιον*) and the female *peplum* (*πέπλος*), was a structureless rectangular piece of cloth, and, as the etymology of the word (*amicere*) shows, was wrapped round the figure; while the inner garment (*tunica*, *χίτων*) was said to be "put on" (*induere*). Thus it represented, in its want of a fitting shape, the primitive undifferentiated covering. Modern dress, as a whole, is pre-eminently an organic system, consisting of many heterogeneous parts, fashioned in conformity to the several divisions of the bodily structure to which it has to accommodate itself. In it are to be found only occasional survivals of the earlier form, as in the shawl and Scotch plaid.

It has been pointed out by the writer

* The parallelism between the development of dress and organic development has been worked out in some of its aspects in a very ingenious work entitled "Naturgeschichte der Kleidung," von Emanuel Hermann (Vienna, 1878). The present writer gladly acknowledges his obligations to this suggestive little book.

to whom reference has already been made, that the form of the various articles of dress has adapted itself not only to the structure but to the functions of the parts of the organism to be covered. He divides garments into three groups of articles: 1stly, those of the extremities—the head, the hands, and the feet; 2dly, those of the connecting organs—the neck, arms, and legs; and, 3dly, those of the fixed trunk. The first having to adapt themselves to the most mobile and active members of the body, are the freest, being most perfectly detached from the others, and most easily put on and off. The coverings of the neck, arms, and legs, which are the transmitters of force, and share to some extent in the work of the extremities, come midway in point of mobility between those of the extremities and of the trunk. The clothing of the latter, which is comparatively at rest, is, as might have been expected, the most fixed and rigid of all.

With this development of dress in heterogeneity and speciality of form, there has been a preservation of organic unity. This has, of course, been necessitated to some extent by the fact that all parts of the costume were related to the organic structure of the body. It is easy to see that the development of any particular branch of clothing has been correlated with that of other branches. The modern development of the covering of the male leg curiously illustrates this law of the correlation of growth. Thus the appearance of the first hose covering the thigh, leg, and foot, about the eleventh century, was connected with the shortening of the coat about that time. A further shortening of this last garment was followed by the production of the upper hose as a covering for the thighs only (sixteenth century). And the gradual lengthening of this article of dress downward till it attained its present form of loose trouser at the time of the French Revolution, was naturally followed by the shortening of the under hose and its transformation into the stocking, and finally into the sock.

This gradual development of dress in extent and complexity has in the main been brought about by the action of the deepest force at work in this region,

namely, the need of retaining bodily warmth. —This need must obviously have increased as soon as our race began to migrate to less warmer regions than those in which it is supposed to have been cradled. In addition to this change in the environment, there has been a change in the organism tending to the same result. With the progress of civilized life all our sensibilities appear to have grown more delicate, and the organism of a lady or gentleman living in London in the nineteenth century is incomparably more susceptible to changing conditions of temperature, etc., in the atmosphere than that of one of their hardy Saxon ancestors. This change in sensibility, though no doubt in part the effect of elaborate dress, is also its most fundamental cause. It stands in intimate relation with all the habits of an advanced state of civilization, such as our mode of heating our dwellings, and so on. One may say, indeed, that man has slowly learned to make, out of dress, a sort of second skin. How much our garments have become a part of us in this way is seen in the helplessness of a person when he loses any part of his equipment. To have to go into the open air bareheaded is a trial to a modern Englishman, and it is, perhaps, a sense of this natural necessity of clothes which underlies the pathos that combines with the absurdity of the situation when a man is suddenly rendered hatless by a gust of wind.

The progress of the art of clothing is marked by a gradual increase in the number of enveloping layers, so that dress may be regarded as building itself up just like a real organic tegument by adding stratum to stratum. In the second place, this progress is characterized by an increase in the degree of fitness to the several parts of the organism. In each of these ways clothing becomes better adapted to fulfil its most important function—the keeping of the bodily surface at a comparatively equal temperature.

The second great factor in bringing about this development of dress is the need of free, unimpeded movement. This force must, it is obvious, be, to some extent opposed to the needs of warmth. Every addition to the number of articles of clothing is a slight increase in the

difficulties of locomotion. A system of heavy bandages tells on a man in a long walk in more ways than one. The result of this opposition has been the invention of materials of clothing which combine lightness with warmth. Such materials gradually come to displace others by a process akin to that of the natural selection of organic modifications which bring an advantage to their possessor.

The change from a loose enveloping fold to a closely-fitting one, which, as we have seen, is the other result of a growing demand for a non-conducting integument, seems also to satisfy the needs of free movement. We venture to affirm that an Englishman of to-day can both walk more freely and swing his arms more amply as he walks, than an ancient Roman in his *ipátuv*, or *pallium*. The case in which tightness of fit is most plainly unfavorable to free movement is that of a modern lady's skirts; but then this is not really the case of adaptation to particular parts and members.

Tightness of dress would in general, and within reasonable limits, only prove unfavorable to movement through its injurious influence on the respiratory and other functions of the skin. And here, too, there is to be noticed a progress in the direction of the most advantageous arrangement. Modern dress, in contrast to earlier forms, seeks to combine a certain degree of porousness with closeness of fit. A glance at the leg of a peasant of the Roman Campagna may tell us how much advancing civilization has done for our limbs in the way of rendering them accessible to the air. The first rude skin garments must, one fancies, apart from their weight, have proved "stuffy" in more senses than one.

To a considerable extent, then, the ends of free and easy movement, both of the whole body and of the separate limbs, have concurrently been satisfied by those changes of dress which have been, in the first place, due rather to the more urgent need of accumulating and retaining bodily heat. It is to be added, however, that the advance of civilization tends very materially to lessen the importance of the secondary end. The civilized man is not called upon to do the feats of agility which are required

of the savage. When he has to perform a series of nimble movements he is pretty certain to look a little awkward. A respectably-dressed citizen suddenly forced to get out of the road of a runaway horse is apt to be a ludicrous spectacle. But then runaway horses are rare phenomena, as the story of "John Gilpin" amply testifies, and the demands made on the flesh of the languid Englishman of to-day in this way are exceedingly light. Nothing better illustrates the absence of the need of rapid movement in our modern form of civilization than the huge erection of the hat. The savage liable to sudden invasion by his enemies would, we may be certain, never have taken to our modern cylindrical head-covering.

Along with these ends of warmth and freedom of movement it may be well to mention the need of protection against natural forces. This seems to have exercised an influence on the covering of the upper and lower extremities of the body only. The hat with its horizontal brim has clearly a reference to the sun's rays—a force which we may be sure our hardier ancestors were not wont to regard as a hostile one. The parasol and the fan, which last the Southern lady knows how to use so gracefully out of doors, may be regarded as an extension of this protective species of apparel. At the other extreme the foot has learned to defend itself against the ruder forces to which it is constantly exposed. In each case the progress of the protective covering in efficiency appears to be related to an increase of sensibility. It might, perhaps, be thought that civilization would tend to reduce the evils of the foot by making rough places smooth. But as long as London vestries use the gravel which they now use for making and mending their paths, this long-suffering member will not dare to relax its precautions.

The progress of dress may be viewed in part, then, as the resultant of these various forces, answering to obvious needs of organic life.* How far they may severally have contributed to the

* No reference has been made here to the need of protection against adverse social forces, since it is only by a stretching of language that the sword, or its modern survival the cane, can be called an article of dress.

actual development of dress we need not seek to determine. It is enough if we are able roughly to conceive of the gradual progress of the art of clothing as brought about by the combined play of these motives.

It is worth adding, perhaps, that these ends have not always been consciously pursued. Much must be set down in the first instance to pure accident. In truth, the history of dress resembles a process of organic evolution in this respect, that it is the product of spontaneous variation and natural selection. Certain modifications of costume come to be adopted through a number of individual motives, and out of these temporary and ever renewed individual variations there emerge, as comparatively permanent forms, those modifications which are found to have some special utility.

The reader will be disposed to think that the influence of utility in the determination of the history of dress has here been greatly exaggerated. We must, therefore, hasten to explain that, so far, we have only been touching one aspect of the development of dress, and this the least striking, perhaps. To complete our account of the evolution of dress we must view it not only on its useful, but also on its ornamental, side. Dress resembles the natural covering of the lower animals in this way, too, that it is partly subservient to the needs of the organism, partly a decorative appendage. This innate love of finery—shared, in different proportions, perhaps, by both sexes—has been the most powerful motive to the adoption and gradual augmentation of dress.

The pleasure derived from wearing attractive garments cannot be dignified by the title of a purely æsthetic enjoyment. It is the monopoly of the individual who thus adorns himself; and the pleasures of art, properly so called, are above all monopoly. This impulse must, one supposes, from the day when primitive man began to paint his body or adorn his head with feathers, have led to a constant variation in his style of apparel. It is of the nature of the passion to be insatiable in its craving for change and novelty. We look for an element of novelty even in a work of purely impersonal art, and in the per-

sonal art of self-adornment this demand is omnipotent.* Hence what answers to spontaneous variation in the region of dress would commonly be the outcome of this restless desire to look finer than one's neighbors. In this way the feeling for the ornamental side of dress has subserved the development of it as a utility. Changes introduced by individual fancy, and the love of the novel and striking, would be permanently adopted when found to bring some advantage, as, for example, increase of warmth.

It may, indeed, be said that the growth of dress in mere volume and number of distinct parts has been greatly promoted in the first instance by this impulse of self-adornment. The rude love of beauty shows itself in an admiration of mere quantity; and the men and women who managed to amplify their garments would clearly by so doing attain a richer decorative effect. Hence many of the vagaries everywhere illustrated in the history of costume, such as the elaborate head-dress, the ample skirts, and the long, sweeping train. It is probable that much of the covering of the body originated in this impulse to enlarge what we may call the decorative surface. Thus, for example, the arms may probably have been first covered for the sake of carrying out a more extensive decorative scheme, in which case the habit of wearing sleeves would be retained for the good reason that by their very use the arms would grow more sensitive to changes of temperature.

It is to be remarked that, while the useful function of dress has thus to some extent grown out of its ornamental, there has been a reverse process. Features of costume, first adopted for the sake of some utility, have become in time mere ornamental appendages. This illustrates a truth, to be spoken of

* The misogynist would of course say that this perpetual love of change is a special characteristic of the fickle feminine mind. He might even find some plausible support for his views in natural science. Mr. Darwin writes: "As any fleeting fashion in dress comes to be admired by man (? woman), so with birds a change of almost any kind in the structure or coloring of the feathers in the male appears to have been admired by the female."—"Descent of Man," vol. ii. p. 74.

more fully presently, that in dress the love of change is curiously complicated by the force of the customary. Many of the furbelows of a modern lady's dress really represent additions which once served some useful purpose. We may instance the rudimentary pocket, which in some recent fashions has done duty as a mere ornament. The ladies' hood, which is now so popular, the shoe-buckles, and the gentlemen's scarf-pins, may be mentioned as familiar illustrations of once useful articles taking on a purely ornamental character.*

Yet, while there has been this amount of harmony between the serviceable and the purely decorative functions of dress, it is evident that they have been to a considerable extent opposed to one another. One of the strongest tendencies observable in the history of costume is that of extending the range of dress upward in the shape of a lofty head-dress, downward in the form of a train, and, one might perhaps add, outward. Now, since all these modes of extension are accompanied by obvious practical disadvantages, the progress of fashion has often looked like the result of a struggle between the two instincts of display and common-sense, now the one force prevailing, now the other. Thus the feminine fondness for ample skirts, or for long, sweeping trains, has again and again reached the point at which any further progress would be incompatible with social intercourse, and then a reaction under the leading of practical reflection has set in.†

* It is not impossible that something analogous to this occurs in the development of birds and other classes of animals. Thus we can understand that after a certain style of coloring had been acquired by a species as a protection against enemies, and this had, owing to changed external conditions, ceased to have its first value, any tendency by individual variation to drop this habitual hue might lead to a rejection by the female, whose taste would pretty certainly be slightly modified by wont and custom. But since the feminine mind is proverbially prone to change, it cannot be supposed that this has been an important factor.

† A similar thing meets us in the history of bird-ornaments. Mr. Darwin, writing of birds, says: "The various ornaments possessed by the males are certainly of the highest importance to them (as means of attracting the females), for they have been acquired in some cases at the expense of greatly impeded powers of flight or of running."—"The Descent of Man,"

There is a special reason for this opposition between the useful and the ornamental in dress. Costume has always aimed at expressing social rank. It is one of the characteristic excellences of the higher grades of society that they lead a life of comparative inactivity. Consequently, a style of apparel which is patently unfitted for the rude work of common people has naturally been selected as the distinguishing garb of the high and noble. This circumstance goes far to account for many of the awkward and ridiculous features in dress which were first adopted by members of the upper stratum of society and then borrowed by the classes below this. The popularity of the tight shoe, for example, may ultimately be due to a considerable extent to the fact that it is obviously incompatible with any kind of severe bodily exertion.

We have regarded the æsthetic side of dress as wholly a matter of individual feeling, and, therefore, as liable to constant change. And we have authority for so doing. A recent lady writer on the question of woman's dress writes: "Women usually like something which gives them height, piquancy, and, above all, conspicuousness." If this is true of the nineteenth century Englishwoman, it is still more true of women in a lower grade of culture. It is this feminine instinct to attract which lies at the root of that perpetual change of fashion which marks the history of dress. It is the great factor in the dynamics of dress. At the same time it must be borne in mind that there is a certain persistence in costume. Not only does a particular style of apparel maintain its ground when it is found to answer some practical end, but it sometimes persists, too, when it has no such *raison d'être*.

A good deal of this persistence must be set down to the more stupid inertia of custom, which, as etymology shows, is so closely connected with costume. The way in which crinoline managed to keep its ground after criticism had done its best to batter and demolish it, is a good example of this inertia. The persistent adoption of the tight-laced cor-

vol. ii. p. 97. The male bird of paradise is troubled by his fine plumes during a high wind, as the human male is troubled by his head-ornament in like circumstances.

set, in spite of all that good sense and science have said about its enormity, is another illustration. Custom may lead to the survival of a thing even when no rational justification of it can be found. The history of fashion in dress, like the history of political constitutions, is the result of a perpetual compromise between the principles of change and persistence.

Yet conservatism in dress, at least, must not be regarded as wholly the outcome of an irrational and pig-headed obstinacy. As we have said, many features of dress have become more or less permanent because they were found to be useful or advantageous in some way. To this may now be added that, on the ornamental side, those varieties which have been found to be generally pleasing, answering to the simple unsophisticated tastes of human nature, have in the long run outlived those which have wanted this characteristic.

At first sight, no doubt it looks as if there could be no such force at work in the history of dress as average æsthetic feeling. The perpetual fluctuation of taste in dress is patent, and has, indeed, become proverbial. It is not unlikely that the Frenchman who invented the saying *chacun à son goût* was thinking of the erratic and apparently lawless manifestations of taste in matters of costume. Still, though greatly disguised by the play of those impulses of individual caprice already referred to, there are such things as normal human feelings, to which the ornamental side of dress may or may not correspond, and these feelings have been a concurrent factor in the actual evolution of dress.

This average normal taste rests in part on constant attributes of human nature. Bright color, for example, is pleasing to every normal eye, and so far dress which supplies the organ with this pleasure answers to a permanent æsthetic need. Much of what is here called average æsthetic sensibility is, however, the slow growth of ages, and limited by the stage of general culture attained by a community. For example, the glaring contrasts of color in dress which delight the eye of a rustic would offend the eye of a cultivated man, if only because they jar on that sense of the charm of feminine unobtrusiveness which has become

a part of his nature. Thus the average æsthetic feelings are partly constant among all individuals and races, partly vary with the stage of mental development as a whole. It is hardly necessary to add that they are not precisely the same for any two races or nationalities, since they receive a certain tinge from the special temperament and circumstances of a people.

Now it can be shown, we think, that the actual progress of dress on its artistic side has illustrated a tendency to adapt itself to the average taste of the age. It is by no means easy to disentangle this factor from the effect of merely accidental fashion. It must be remembered that custom has a profound influence on taste itself. We are apt to judge that to be æsthetically right to which we are accustomed. And this because our surroundings, whatever their intrinsic worth, take a familiar and friendly aspect through wont and association. In a large sense, perhaps, it may be said that the highest feeling for the beautiful is nothing but a response to our habitual environment. Hence when any fashion happens from any cause to have set in, and to persist for a while, the liking of what is familiar leads people to attribute to this an æsthetic value.

The only way to distinguish between the natural, unsophisticated taste of an age and people and this artificially induced taste, is by taking pretty extensive periods, and inquiring what is permanent in the different styles adopted, or rather, perhaps, about what points the successive forms of fashion appear to oscillate. In this way it will be possible to get a rough idea of the standard of taste in dress for the particular period considered. And this standard will, as might be expected, be found to bear a close relation to the stage of æsthetic development, as a whole, reached by the community in question. When the æsthetic feelings of a people have been broadened and deepened, there has inevitably followed an improvement in the style of dress. The rapid growth of the visual arts, reacting on popular taste, has always had an elevating influence on dress. Under such æsthetic development must be included the growth of the intellectual perceptions of harmony, fit-

ness, etc. It is hardly too much to say that all intellectual progress has tended to improve taste in dress by investing it with richer associations and a deeper significance. This might be illustrated, perhaps, by a comparison of the amount of attention which the subject of dress receives at the hands of our chief poets in different epochs.

It is hardly possible to speak of the æsthetic influences which have acted on dress apart from moral influences. In dress the æsthetic and ethic aspects are closely connected. Ideas of decency and modesty insensibly modify a people's idea of what is beautiful in costume. On the other hand, there is a large amount of direct opposition between the two ends. Severe moral ideas have always tended toward asceticism; and it is obvious that certain moral and religious ideas, such as humility, would be averse to any ample display in dress. And thus we find that in the history of English costume there has been a struggle between the puritanic impulse to eschew vain show, and mortify the flesh, and the generous impulse of the natural man to adorn life and add to its grace. The growth of the æsthetic sense, as a whole, has been the outcome of many a hard conflict, and nowhere has this been more apparent than in the domain of costume.

The power of self-adjustment of dress to the stage of æsthetic culture reached at the time is analogous to an organic process. Just as the preservation of forms of apparel found to be serviceable answer to natural selection in the biological region, so the survival of forms æsthetically preferable answers to what is known in biology as sexual selection. According to Mr. Darwin, many of the ornaments of birds and other animals have been acquired through the repeated preference on the part of females of males accidentally born with such telling points in their favor. Hence the force that selects and preserves is clearly something like an æsthetic sense; and what is important is that this feeling is supposed to be pretty constant for a large number of generations. If, for example, the eye for symmetrical markings and beautiful gradations of color had not been possessed by many successive generations of female argus pheas-

ants, it is probable that the beautiful ocelli of which Mr. Darwin tells us would not have been acquired by the males of the species.

The comparative permanence of æsthetically suitable forms and colors in human dress is due to sexual selection. Only the sex that has the privilege here is rather the male than the female. In our species there is not a wide scope for rivalry among the males in the matter of display of attractive colors. In the military age there was probably more room for this kind of emulation; but since society has become industrial the fascinations of male attire have been greatly reduced. Nowadays an eager and anxious lover may think that his success will turn on the perfect fit of his coat or the faultless arrangement of his tie. Yet, in spite of such exceptions as Balzac's "*Modeste Mignon*," women seem, on the whole, to attach but little weight to these superficial qualifications. On the other hand, it is commonly allowed by women themselves that the amount of time and attention bestowed on dress by their sex is related to the end of attracting the other and sluggish sex. It would be curious, if we had time, to inquire why the competition in self-adornment, with a view to attract the opposite sex, has become shifted in the case of our species from the male to the female. Is it that women are more searching than men, and look not at the outward man? or that, owing to the backwardness of the human male, the function of attraction has devolved on the naturally retiring female?

It would thus look as though men's taste is the great ruling circumstance in the selection of dress as an æsthetic object. The vagaries of feminine caprice must oscillate about the point of the average male judgment. In choosing her dress a woman keeps one eye on her own individual ideal of herself, but the other eye is fixed on the ideal which she conceives the brutal sex to have fashioned and set up. At the same time it is plain that the average male taste stands in a pretty close relation to that of the other sex of the same period. For one thing, women have much to do with laying the foundations of the male taste in early life, so that their ideas naturally have a good deal of influence.

Besides this, a large proportion of men are considered, by women at least, to be quite destitute of taste, and, being good-naturedly half disposed to acquiesce in this view, they are ready to accept women's judgment in matters of dress as their own. And thus we may say with tolerable accuracy that it is the average taste, not simply of the male sex, but of the community as a whole, that determines the relatively permanent directions in the progress of the art of dress.

Probably enough has been said, in this slight analysis of the influences at work, to show that the history of dress is not altogether the arbitrary and irrational thing which at first sight it might appear. That there is much in the temporary fluctuations of costume which is accidental and capricious nobody doubts. The initial impulse that determines the course of a fashion is often insignificant enough, and nobody supposes that the occult authorities that fix the novelties in Paris are invariably wiser or more highly endowed with æsthetic insight than many of those for whom they legislate. Yet beneath these surface movements, which are often exceedingly intricate, one can discern larger and more enduring currents, the laws of which are to some extent discoverable.

Viewed as a whole, then, the progress of the dressmaker's art, from its first *naïve* tentatives to its present elaborate achievements, appears to be a fairly reasonable process. Possibly at this present moment we are doomed to be overdressed, except when custom allows one sex to run to the other extreme. Yet nobody will dispute that our modern equipment, with all its drawbacks, is, on the whole, adapted to the general conditions of civilized life, and could not be exchanged for the simple and scanty attire of our ancestors.

And just as the development of dress under one aspect answers to growing material wants, so under another aspect it expresses the growth of the intellectual and emotional nature of man; his sensibility to the charm of light, color, and form; his perception of the harmonious and appropriate, the decent, and so on. The art of dress is not some-

thing apart from the whole social life, but is organically connected with it by numerous nerve-like filaments. No considerable change in the æsthetic or moral feelings of a community has been without its effect on dress; and the history of costume in its main features is one index to the growth of a people's manners, ideas, and emotions.

Naturalists have familiarized us with the idea that the development of the individual follows the lines of the development of the race, and may, indeed, be regarded as a condensed narrative of this. The same thing will be found to hold good to some extent with respect to dress. The nineteenth-century infant is not, indeed, left in the condition of primitive man with his one meagre garment. Yet in the simplicity of its costume it forcibly suggests the earlier homogeneous style of apparel. The individual takes to separate coverings for different parts of the body only when the functions of life increase and locomotion becomes the most important of his experiences. So, too, on its moral and æsthetic side, the dress of infancy and childhood illustrates the growing mental development of the individual and of the race. The comparative innocence and *naïveté* of primitive man is reflected in the infant, and hence we accord to it the same liberties with respect to dress. So, again, the pink or blue bow of the first year or two exactly answers to the rudimentary æsthetic sensibility of this period of individual existence, and of the corresponding stage of racial development.

The aim of the present paper has been to prove that the past history of dress has its *rationale* and its causes. No attempt has been made to consider the subject of dress on its practical side. It is no doubt always a great step to take to pass from what is to what ought to be. Yet if, as we have been trying to prove, the past movements in the development of dress have arisen out of natural and rational feelings and desires, it may be possible, after our examination of these impulses, to construct a rough ideal of dress for the future, which shall satisfy the ends of utility and beauty alike.—*Cornhill Magazine*.

THE WAGES OF LITERATURE.

M. ZOLA has published a volume of collected essays which cannot, of course, have a success like that of "Nana." In his essays M. Zola merely explains his theory of literature; in his novels he illustrates his theory by pungent examples. In his essays he fulminates from his pulpit in the *Voltaire* against that terrible social evil, *le lyrisme*. He descends on Victor Hugo with the crushing remark that, after all, "he is only a lyric poet." In M. Renan, too, he detects that futile thing, a poet; and it is not to the purpose to reply that M. Renan has written little or no poetry. M. Zola has spoken, and M. Renan's place for the future is in the purgatory of poets. In agreeable contrast to the sickly sentiment of mere lyric poets and to the impertinences of such authors as Victor Hugo, M. Zola erects the majestic shapes of Science, of "Naturalism," and of himself. Literature is to be all science now, all physiology, and M. Zola is the prophet of the new era. It is true he often says "we" in speaking of the Naturalists, and he seems to indicate the existence of a group of "those about Zola," young writers of his school. But the world has not recognized, or has shut its nostrils against, the fragrant literature of young Zolaistes. It is with the master himself that we must deal, listening respectfully to his haughty demand for "documents," and wishing humbly that he would not invariably look for documents in such very unspeakable places. To read M. Zola is almost enough to make one detest science—in whose name he does such remarkable things—and to read Mme. Deshoulières with pleasure. But there is one topic at least on which M. Zola speaks with some authority, and with good common-sense.

That topic is *l'argent en littérature*, the wages of literature. M. Zola laughs at the absurd old theory which condemned men of letters to give away their works for nothing, and to be satisfied with glory. Never was there a poet yet that was content with glory without money. Byron mocked at Scott's gains till his own works began to sell, and that has usually been the limit of poetical

indifference to professional success. M. Zola, of course, is indignant with the critics who deplore that the modern writer has become a tradesman. He himself, as every one who chanced to be in Paris at this time last year must be aware, is a master in the art of advertisement. Big and little yellow placards, bearing the name of "Nana" in squat black letters, were the most remarkable among the mural decorations of the town. M. Zola has always made it clear that he did not agree with people who say "l'argent tue l'esprit." In his essay he tries, with some success, to demonstrate that the author lives better, and in a more dignified way, in an age of commercial naturalism than in a period of what he calls "idealism," and of patronage. With the modern side of the question M. Zola is very well acquainted. He now counts his editions by the hundred thousand, but the time has been, as he tells us here, when he starved in a garret. About the condition of authors in old days, about the relations of the classical French writers and their publishers, M. Zola is not nearly so well informed. He says that it is a question of "documents." So it is, but in this case the "documents" are not to be found in the *lupanar*, or any of the haunts of Nana, so this eminent man of science has but few to exhibit. In memoirs and letters the evidence must be sought, and the obscure history of the relations of authors and publishers has still to be written. M. Zola has looked into the "Historiettes" of Tallemant des Réaux, an ignoble and ill-natured scandal-monger of the seventeenth century. In the "Historiettes" he finds the anecdote of the King's inability to pension Malherbe, of the thousand crowns granted to the poet by M. de Bellegarde, the reduced pension given by Marie de Medicis, and so forth. Malherbe did not mind accepting a "tip" of four hundred livres, but he was indignant because his benefactor did not send a carriage to bring him to receive the money. De Balzac, who had land of his own, made it a point of honor to receive a pension. Sarrazin was a bullied, and Voiture a petted,

parasite of the great ; and it seems that M. de Noailles used to treat the eminent chaplain as badly as if he had been a court jester. Corneille was always poor, and La Fontaine was the pensioner of Fouquet, the Minister of Finance. La Fontaine was to receive a thousand livres yearly, in payment for delivery of a set of verses every quarter. The first set of rhymes is addressed by La Fontaine to Mme. Fouquet :

Comme je vois monseigneur votre époux
Moins de loisir qu'un homme qui soit en France,
An lieu, de lui puis-je payer à vous ?
Seroit ce assez d'avoir votre quittance ?

Pelisson, the secretary of Fouquet, gave La Fontaine a receipt in rhyme, a ballad on the same refrain as that employed by La Fontaine :

Muses de Vaux, et vous leur secrétaire,
Voilà l'acquit tel que vous souhaitez.
En pul'issiez vous en cent ans assez faire !

Madame Fouquet was made to say :

De mes deux yeux, ou de mes deux soleils,
J'ai lu vos vers qu'on trouve sans pareils,

and so forth. The whole transaction may not have been very dignified, but dignity was not the strong point of good La Fontaine. M. Zola does not mention the affair, but no doubt he would condemn it in the sweet, tolerant spirit of scientific naturalism. Another old offender was Clément Marot, who begged a petition from Madame d'Alençon, in a "ballade, pour estre couché en son estat."

M. Zola attributes the somewhat servile position of the old poets to the want of readers. Except by way of patronage, there was no remuneration for a man of letters. We cannot help suspecting that it was less lack of public appreciation than of honesty in the old publishers that kept literary men dependent on the caprice of the great and the gratitude of kings. What we need is more documents about the old laws of copyright. Probably copyright was chiefly secured by the printer, by aid of Royal licenses. If we examine the case of Ronsard, a poet of great popularity, it will be seen that, as far as patronage went, he did very well. The King gave him the abbey of Bellezanne, Beaulieu, Croixval, and several priories. But toward the end of his life, in 1584, Ron-

sard had never received a penny from the booksellers who brought out his numerous works. Ronsard's letters are unluckily lost, but Colletet analyzed some of them. "For the edition of 1584 he expects Buon, his publisher, to give him sixty crowns, that he may have firewood to keep him warm in the winter weather. And if Buon will not agree, he asks a friend to treat with the booksellers in the Palais, who doubtless will give him more than the sum mentioned if he puts a bold face on the matter, and demands a proper sum for the perpetual privilege of printing the volumes. And this privilege is the more remarkable as, nowadays, licenses are only granted for a few years, and are not perpetual. The Ronsard remarks bitterly on the greed of publishers, who like always to take and never to pay." Unluckily, the exact remarks of the "Prince of Poets" are lost. Rabelais is another example of an author whose works had an immense popularity and a most extensive sale, yet he never seems to have been a rich man, or to have derived much emolument from his success. And we can partly understand this when we read in Mr. Christie's "Life of Etienne Dolet" how that worthy "martyr" pirated the books of his friend. "It was with feelings of excessive but justifiable irritation that Rabelais, in 1542, found issuing from the press of Dolet, without his sanction or knowledge, an edition purporting to be augmented and revised by the author himself, in which all the obnoxious passages and expressions reappeared." Thus it seems that the state of the law of copyright, the knavery of booksellers, and the carelessness of authors, rather than the lack of readers, deprived the old writers of their legitimate gains. M. Zola says that Molière only made a competency—"gagnait strictement sa vie ;" but the documents about the property left by Molière at his death prove the inaccuracy of this statement. Molière had his own troubles with the booksellers. In 1660 he had to obtain a decree from the Privy Council enabling him to seize a whole piratical edition of his "Cocu Imaginaire" in the house of Ribou, the publisher. He afterward, with his usual charity, lent this fellow Ribou money when the publisher was in distress. The

evidence of contemporary plays proves that Molière's pieces sold well when they were printed. As the author generally reserved his own property in them, it is not impossible that he may have profited by the sale of his plays no less than by their success on the stage. M. Zola dismisses the whole topic, on which his researches throw scarcely any light, with the remark that "novelists, poets, and historians were all the prey of the publishers." We think he greatly underestimates the gains of the old writers for the stage, and even of the more popular writers of poetry and fiction.

With the modern condition of the man of letters, with the modern wages of French literature, M. Zola is naturally well acquainted. Every one, he says, can now afford himself a little library. In England it is not so; and before the age of circulating libraries people were greater buyers of books than they are at present. Still, even in France, almost every writer who has not a private income must begin with the daily toil of journalism. Twenty years ago even well-known men only received about two hundred francs a month from the papers; now they get a thousand francs or more. This is not an immense income, but the French are economical. M. Zola thinks that any young fellow of talent and energy can add literature to his journalism, and find time to write books or plays. A book does not pay well, but it helps to make a man a name. Publishers, as a rule, pay a royalty on each volume, perhaps half a franc on one of the novels that sell for three francs and a half. At this rate, if a thousand copies sell, the author makes twenty pounds. Three or four thousand copies sold are considered a very respectable success. Thus eighty pounds is as much as even a sanguine young author can hope to gain by a novel. M. Zola does not say that his remarks are confined to works of fiction, but we rather pity the young journalist who hopes to make eighty pounds by work of any other sort. Let it not be forgotten that half a franc is rather an unusual

royalty; forty, or even thirty-five, centimes are more commonly given. M. Zola says that the system of royalties makes disputes between author and publisher impossible—an ideal result. The stage pays much better, and a run of a hundred nights should mean a sum of forty thousand francs (1600*l.*) for the author. A book must sell some eighty thousand copies to be as remunerative as a successful play. Only a few novels have had this vogue in the last fifty years, though even this rare fortune has fallen to the skilled and judicious industry of M. Zola.

The question naturally arises, Are not the apprentices of literature spoiled by the rough-and-ready work of journalism, by which alone they can live in their early years of struggle? M. Zola thinks not. He thinks that the contact with facts and with the popular taste gives writers more energy, more knowledge of the world. This is a difficult question. It needs a strong man to be both a journalist, and, in rare intervals of leisure, a writer of higher aims, the wielder of a style more refined. But M. Zola admits that he is only interested in strong men. Much depends on the aim of the beginner. He may mean to use journalism only as an instrument, and then may find that he can afford no leisure for more mature work. In that case, M. Zola, taking a wide philosophic view, would probably say that the struggler had found his place and had better make the best of it. He proves, by the examples of George Sand, Dumas, Sardou, and Hugo, that fortunes may be made by literature when the writer has genius. The born hacks must be content to remain hacks, and the odds are that they never had it in them to be anything better. One thinks of Théophile Gautier and his slavery to the press, and doubts the truth of this theory. It is sweeping, it is severe, perhaps heartless, but it is true on the whole, and recommends itself to the scientific student of the struggle for existence. "La vie est ainsi, notre époque est telle."—*Saturday Review*.

THREE WISHES.

BY H. FRANCIS LESTER.

THREE little maidens out on the grass
 Had gambolled the hours away ;
 The summer was sweet, and the hours were fleet,—
 Gwendolen, Maud, and May.
 They had worked at their play the livelong day
 As hard as maidens can ;
 So when six little feet were tired with the heat
 Then three little tongues began.

"What *shall* we do next?" cried the three, perplexed,
 "For we really must have more fun."
 And they all thought deep, till a plan did leap
 Full-blown from the brain of one.
 "Let us ask of the Fairies"—'twas Maud that exclaimed—
 The tallest and fairest was she—
 "Let us ask them to grant whatever we want
 And to list to wishes three!"

And what did they ask for? The youngest began,
 The sweet little maiden May ;
 The weakest was she, but her spirit was free
 And as gentle as the day ;
 "Oh, Fairy-Queen, whom I never have seen,
 I hope I address you aright—
 If you have one to spare, I should like to wear
 A dress of invisible white!"

Then the second one prayed for the Fairies' aid,
 And a different wish had she ;
 Maud was her name, and she felt no shame,
 For she knew what her wish would be.
 Her limbs they were long, she was rosy and strong,
 Such a maid as men extol,
 Yet she begged for a prize that would shock the wise—
 "A wonderful Magic Doll!"

Now, you are the eldest, and what do *you* want,
 Little Gwendolen, "faithful and true ;"
 With your face like a saint, and your manners so quaint,
 Now what shall be done for you ?
 "Oh, Fairies," she said, "let me cut off the head
 Of a giant that sups upon men ;
 Let me grow strong and bold, like the heroes of old,
 For now I am only ten!"

So the quick years flew, and the maidens grew,
 And how do their wishes fare ?
 Do the Fairies forget the childish debt,
 Or reward the childish prayer ?
 Oh, kind is the Queen of the Fays unseen !
 And to Maud, a wedded bride,
 She sent such a doll as mothers extol,
 That toddled, and prattled, and cried !

Nor did Gwendolen miss her longed-for bliss,
 A giant to conquer and slay;
 There are human needs, there are heroes' deeds,
 For heroic hearts to-day,
 But sweet little May, she vanished away
 Beyond the Fairies' sight;
 So the angels gave what the maid did crave,
 A robe of invisible white.

Belgravia Magazine.

LITERARY NOTICES.

THE ORTHOËPIST: A Pronouncing Manual.
 By Alfred Ayres. New York: D. Appleton
 & Co.

In view of the fact that correctness of pronunciation has long been regarded as one of the most conclusive tests of culture and good breeding, the slight attention that is bestowed upon it in the training of the young, and by men and women after their education is supposed to be finished, is certainly a matter for surprise. No pains seem to be considered too great when bestowed upon those nice distinctions as to the derivation and transformations of words which properly belong to the etymologist rather than to the equipment of men and women for the average needs of life; and a considerable portion of the educational course is consumed in futile attempts to drill youthful intellects into a comprehension of minute particulars of grammar which are never really mastered save through incessant practice in speaking and writing. Yet neither teachers nor parents appear to bestow any attention upon a matter which is properly regarded as one of the finest fruits of culture and refined associations; and it is among the rarest of experiences to hear our mother-tongue spoken with correctness and elegance. The truth is that very few persons are aware of the glaring nature of their deficiencies in this particular, and, as Mr. Ayres observes in his prefatory note, there are a great many people with high pretensions to culture who would be amazed if their mispronunciations were to be pointed out to them.

If the little book before us did nothing more than awaken an interest in its subject matter, it would render a valuable and a very much needed service; but it does much more. It furnishes what will serve at once as a guide and as a standard for those who desire to have their practice in speaking English conform to the most approved orthoëpical usage. Bringing together in a select and compendious list those words which are most frequently mispronounced, those the pronunciation of which has recently changed or is in process of change,

and those whose usage is so unsettled that the laws of analogy and historical development can be applied to them, the little book comprises nearly everything for which a person of average acquirements would consult the dictionary, and, of course, contains much that would not be found in any single dictionary. In arranging his list and settling his pronunciation, Mr. Ayres appears to have consulted all the leading orthoëpists of this country and of England, and on all controverted points cites the leading authorities on either side, and summarizes the reasons which they have given for their preferences. Occasionally, as in what he says about the slurring of the pronouns, and about the sound of the vowels when standing under what he calls "a rhythmical accent," Mr. Ayres gives us the results of his own researches and observation; and pertinent passages from the poets and dramatists are frequently cited in illustration of some obscure or difficult point. These citations are so happy, and the explanatory and corroborative notes so suggestive and interesting, that the little book, instead of being a mere dictionary-maker's vocabulary, is quite readable; and very few will reach the end without wishing that there were more of it.

One feature of the work which, we think, might have been profitably expanded is the names of foreign authors, artists, composers, etc., and the names from the Greek and Roman mythologies. Our own observation is that these are scarcely ever pronounced correctly, and in general there is no accessible work in which one can learn what the proper pronunciation is. A sufficient number of these names has already been included to give the Manual a special and peculiar value; the addition of five or ten times as many more in another edition would render it indispensable.

As the author of "The Orthoëpist" has chosen to withhold his identity from the public, we, of course, shall not assume to divulge it; but it will be, perhaps, no unjustifiable intrusion upon his reserve if we say that "Alfred Ayres" is the pseudonym of a well-known

teacher of elocution in this city who is known to have given his best attention during many years to the subjects with which his book deals.

ENDYMION. A Novel. By the Right Honorable Benjamin Disraeli, Earl of Beaconsfield. New York: D. Appleton & Co.

If, as appears to be the case, "Endymion" was written recently, it shows a remarkable persistence of those qualities which characterized Disraeli the Younger when he first began his literary career. It is more than fifty years since "Vivian Grey" startled and somewhat bewildered the public by its audacities, and now, after more than an ordinary lifetime has intervened, precisely the same sensation is produced by the appearance of "Endymion." There is the same thinly-disguised portraiture of well-known persons, the same more or less conscious disclosures of the author's own personality, the same tone of caustic satire and cynical depreciation, the same zest in depicting "high life" and the pageantry of wealth, the same glorification of "race" and "blood," and the same brilliant, scintillating, epigrammatic, burnished, and rhetorical style. The style, indeed, is somewhat less tawdry than in the earlier story; and there is, perhaps, more repose of manner; but there is no diminution of vivacity or vigor, and the work of the aged statesman is as lively, as aggressive, and as full of animal spirits as the earlier achievement of the literary free lance.

The action of "Endymion" covers the period from about 1830 to 1850, and in its incidents and development follows, in the main, the order of historical events. As the author himself played a prominent part in these events, this of itself would suffice to give a certain piquancy to the story; and the piquancy is enhanced when we discover that the story of Endymion is the story of one who, like its author, raised himself from a position of obscure insignificance to that of Prime Minister of England. Yet it is obvious throughout that, while there is a certain parallelism between the actual career of Benjamin Disraeli and the fictitious one of Endymion Ferrars, and while real incidents of the former have been used to illustrate the latter, there has been no intention that the one should be regarded as a reflection of the other. And the same thing is true of most of the other characters. The Duke of Wellington, Huskisson, and Peel are introduced under their own proper names, and the disguises of others are so diaphanous that it was evidently designed that they should be easily penetrated. Prince Florestan, for example, is quite obviously Louis Napoleon; the banker Neuchatel is the late Baron Rothschild; and traits from the character or incidents from the life of known men and women have been

worked into the portraiture of quite a number of the characters. But to one really acquainted with the history of the last fifty years, and with the prominent actors in it, nothing could well appear more absurd than the performances of the gossips who have constructed a complete list of *dramatis personæ*, identifying Lord Roehampton with Lord Palmerston, Lord Montfort with Lord Melbourne, the Earl of Ferrol with Prince Bismarck, Job Thornberry with John Bright, Myra with Lady Palmerston and the Empress Eugénie, and (the climax of malicious absurdity!) Ste. Barbe with Thackeray. The extreme tenuity of the resemblances that have furnished the basis for all this guessing reminds one of the etymological achievement of Sydney Smith, who derived "Middleton" from "morals" by leaving off the *ral* and changing *o* into *iddleton*.

Regarded in its purely literary aspect, "Endymion" could hardly be assigned a very exalted place even in current fiction, which cannot be said to average very high; but as a political novel written by a self-made Prime Minister it possesses a certain piquancy now, and will always retain a certain interest.

THE FAMILY MEDICAL GUIDE. A Complete Popular Dictionary of Medicine and Hygiene. Edited by Edwin Lankester, M.D., F.R.S., etc. American Edition. New York: E. R. Pelton & Co.

The public has been so often imposed upon by works of this kind that any new venture in the field is apt to be regarded at the outset with a well-grounded suspicion. Nor is this a matter for surprise. Hitherto the field has been surrendered to medical quacks or to irresponsible compilers, whose productions have never represented the best medical science and practice, and have wrought infinite harm to those who have been confiding enough to trust them. Lankester's "Family Medical Guide" is a work of a very different character. Dr. Lankester himself is a physician and scientist of the highest standing and of world-wide reputation, and he states in a Note prefixed to the volume that he should not have undertaken the editorship of this "Guide" had he not been fully assured that the professional gentlemen who wrote the greater part of the articles were fully competent to the task. "They all possess," he says, "the highest qualifications, and some of them are attached to public institutions, so that their individual opinions may be regarded as of importance." He adds: "On the whole, I believe the book will be found more up to the science and practice of the time than any previous attempt made to popularize the practice of medicine and surgery." The American edition of the work has been very carefully revised, with a view to the different

local conditions, and contains many valuable articles not found in the English edition.

For convenience of consultation the contents of the "Guide" are arranged in alphabetical order, as in a dictionary or cyclopædia, and there are upward of *two thousand titles*, the scope of the work being far more comprehensive than in anything of the kind previously undertaken. Besides the articles on every form of disease or ailment that flesh is heir to, each of the medicines, drugs, plants, and preparations used in medical practice is fully treated of in a separate article, and there are very complete instructions for the treatment of those various accidents that are liable to occur at any time, and which require immediate action. By the special desire of Dr. Lankester, much space has been assigned to all questions connected with hygiene, or the preservation of health, and every branch of human physiology is expounded and discussed by an expert. On such subjects as Food, Diet, Indigestion, Fevers, Insanity, Climate, Health Resorts, Mineral Waters, Vaccination, and Sanitary Regulations, the articles are, in length and importance, equivalent to special treatises. Moreover, as the book was written by London physicians of recognized ability and the highest reputation, the methods of treating diseases recommended in it comprise the very latest discoveries and improvements in the science and practice of medicine. "In this respect," as the preface says, "it is probably twenty years ahead of the average medical practice in this country, outside the few largest cities; and many, perhaps most, physicians would learn much from it regarding novel uses of medicines and improved modes of treating disease."

It should be said, however, that, while written by professional men, the "Medical Guide" is designed and adapted strictly for family use. All technical phraseology has been carefully avoided, and the aim has been to make a book which any intelligent person could understand with ease and use with confidence. The directions are simple and precise; the remedies suggested are such as may be readily obtained and safely administered; and particular pains have been taken in explaining the significance of those signs or *symptoms* of disease which it is so important that we should appreciate correctly. Occasions are constantly arising in family life when an intelligent man or woman, using the information thus furnished, may mitigate suffering and perhaps save life.

UNDER THE OLIVE. Poems. By Mrs. Annie Fields. Boston: Houghton, Mifflin & Co.

If it possessed no other attraction than its outward aspect, this little volume would be entitled to some degree of attention, but its contents stand in strict relationship to its extremely

tasteful and elegant exterior. Almost without exception the poems which it contains are suggested by Greek themes, and there is a scholarly and antique flavor about them, as well as the explanatory Notes, which is very pleasing. There is nothing of the Greek joyousness about them, however, the author's mind being evidently of a grave and reflective cast. Serenity of spirit is as marked a characteristic of them as elevation of thought, and the verse, without being melodious, exhibits a strong sense of rhythmical harmonies. It is a book for cultured readers, which cultured readers will estimate highly.

HEROES OF CHRISTIAN HISTORY (Henry Martyn, by the Rev. Charles D. Bell, M.A., D.D.; William Wilberforce, by the Rev. John Stoughton, D.D.; Philip Doddridge, by the Rev. Charles Stanford, D.D.). New York: A. C. Armstrong & Son.

Under the above apt and striking title the publishers propose to issue a series of short biographies of the men whose works and names occupy the most prominent and distinguished places in later religious history. Each volume of the series will be prepared by a writer of recognized ability and authority, and while aiming at scholarly exactness in the method of treatment, will be entertaining in form, popular in style, and adapted to the needs of those who have neither the means to procure nor the leisure to read more elaborate works. Among the subjects already selected for treatment (besides those named at the head of our notice) are Richard Baxter, John Knox, Robert Hall, John Wycliffe, Thomas Chalmers, and Jonathan Edwards; and the volumes already issued show that the design of the series will be admirably carried out. The sketch of Henry Martyn, the missionary to India, is particularly good, and besides the biographical narrative, contains an interesting selection from his correspondence. The career of Wilberforce was in an unusual degree varied and picturesque, and furnishes an opportunity to the biographer of which Dr. Stoughton has not failed to make good use; and Dr. Stanford has made a hardly less readable record of Doddridge's life.

FOREIGN LITERARY NOTES.

It has been estimated that there are now no fewer than 148,000,000 copies of the Bible, as against only 5,000,000 copies in circulation at the commencement of the present century.

RUSSIAN translations of Bunyan's "Pilgrim's Progress" and "Holy War" are to be published shortly, along with the illustrations which appear in Messrs. Cassell's editions.

A NEW edition of Victor Hugo's "Toilers of the Sea" is in preparation, in which all the vigorous sketches with which the author illustrated the margins of his MS. will be reproduced in *fac-simile*.

AFTER much deliberation, Professor Lotze, the metaphysician, and the well-known author of "Mikrokosmos," has accepted a chair of philosophy at Berlin, where he will remove from Göttingen at Easter, 1881.

A REMARKABLE discovery has been made in Berlin, viz., the papers of Marshal Bertier, found in a chest that had not been touched for seventy years. Among these papers are some letters from Napoleon I., and the summons to Saxony in October, 1806: they are shortly to be published.

THE project of an International Congress of Orthographers, which was mooted in the spring of this year, received sufficient support from scholars in England and on the Continent to render it very probable that the first congress will meet in the autumn of 1881.

DON FRANCISCO CARRASCO is preparing a catalogue of all the materials of the sixteenth and seventeenth centuries preserved in the "Archivo de las Indias," and relating to the discovery and description of America, for the Congress of Americanists to be held at Madrid in September, 1881.

A BENGALI writer, Jogendaranath Bidyabhusan, has recently published in the vernacular a life of Mazzini, together with a short account of Italian history, his object being, as he says, to excite patriotic feelings among the Hindoos, and to teach them to prefer the good of their country to their self-interest.

THE editors of "Charles Dickens's Letters" are anxious to get together more of his correspondence. Miss Dickens and Miss Hogarth will, therefore, be grateful if any persons possessing letters of Dickens which have not been published will send them under cover to Miss Hogarth, at 11 Strathmore Gardens, Kensington, W. The letters will be most carefully preserved, copied, and returned to their owners with as little delay as possible.

THE recent destruction of Professor Mommensen's library by fire has drawn the attention of librarians to the necessity of insuring the safety of rooms in which MSS. are deposited. Thus the Library of Heidelberg has obtained a special grant for building fireproof rooms for its MSS. We are sorry to say that nothing of the kind has been planned as yet for the Berlin Library, in which the MSS. are, so far as we are aware, stored up in those rooms which are nearest the roof.

FEW are aware of the extent to which Sanskrit is at present used as a medium of conversation and correspondence in India, and of its extreme convenience when employed as a kind of *lingua franca* among learned men in a country where there may be no affinity between the spoken vernaculars, or not sufficient affinity to make two persons living in adjacent districts mutually intelligible. Mr. Cust has shown that about two hundred languages and dialects are spoken by the inhabitants of our Indian empire. What a barrier would this variety of speech be to the interchange of ideas, were it not for the universal employment of Sanskrit and Hindustani as vehicles of intellectual intercourse by the educated classes in all parts of the country!—*Athenaeum*.

IT is well known that the contemporaries of Goethe and Schiller published some very strange criticisms upon them. Herr Julius Braun is engaged upon the compilation of a book which is to be made up exclusively of a chronological reprint of the criticisms which appeared in various periodicals upon the two great German poets between the years 1770 and 1834. The articles are collected from well-known contemporary publications of Berlin, Vienna, Leipzig, Dresden, Halle, Jena, Weimar, Stuttgart, and Mannheim.

WE understand that Mr. Boscawen has discovered in a private collection of objects coming from Carchemish a gem representing a priest, who stands upon a bee when sacrificing. The cultus of the bee among Semitic tribes could be deduced from the name of Deborah, "Bee." Mr. Boscawen's discovery may help the understanding of the passage [in Isaiah 7: 18, "And it shall come to pass in that day, that the Lord shall hiss for the fly that is in the uttermost part of the rivers of Egypt [the Philistines worshipped the fly], and for the bee that is in the land of Assyria."]

SCIENCE AND ART.

THE EARTH'S ROTATION.—The Earth's rotation was demonstrated by means of the pendulum by Leon Foucault, in February, 1851. He was permitted to hang a bob of 28 kilos. from a wire 67 metres long, beneath the dome of the Pantheon, in Paris. A posthumous note in explanation of the observation is published in the recently collected works of the great physicist. He fully appreciated from the first that the rapidity of the deviation is equal to the Earth's velocity multiplied into the sine of the latitude of the place of observation; corresponding simply with sidereal time at the pole and being infinite at the equator. The pendulum had a period of eight seconds for each vi-

bration. It continued in motion with a single impulse for six hours, making a complete rotation in thirty one hours, and a deviation of $1^{\circ} 33'$ in each oscillation. By this noble experiment he substantiated an important physical fact, namely, the fixedness of the plane of oscillation, as a consequence of *vis inertia* in matter generally. This he afterward demonstrated still more ingeniously by means of a delicately-suspended gyroscope. Another less known form of the experiment is also recorded in his works. A thin, long, elastic rod of steel is fixed to the mandril of an ordinary lathe, being free at the farther end. If this be pulled at the free end out of its position of rest, it vibrates in a series of lines, circles, and ellipses, following each other in regular succession. The same phenomenon is seen in Wheatstone's kaleidophone. When, however, a steady oscillation has been obtained, it is not interfered with in direction by causing the mandril and the attached rod to rotate rapidly about their axis, the plane of oscillation continuing stable though the mass of the vibrating body is in motion. Even beyond this the rotation protects the oscillatory plane against deformations due to unsymmetry of the rod, and renders it more stable than in a state of rest. Indeed, whatever form the vibratory curve may have taken up, whether linear, circular, or elliptical, this is preserved unchanged as long as the axial rotation is kept at a certain speed.

THE SUSPECTED ULTRA-NEPTUNIAN PLANET.—No results have been made known with respect to the distant planet believed by Professor George Forbes to be at present close to the star β *Virginis*. It is probable, therefore, that no attempt has been made to search for this very problematical planet. It will be remembered that Professor Forbes founded his belief in its existence on a study of the orbits of the different comets of long period, and that he assigned a distance from the Sun of over 100 times that of the Earth, and a period of over 1000 years. Professor Forbes also pointed out that in 1857 this supposed planet would be in the position of the star No. 894 in the Greenwich First Seven-Year Catalogue, a star which was only seen in the year 1857, and on no subsequent occasion. We now learn that this star, No. 894, was a tenth-magnitude star, observed by mistake for one of the minor planets, and that it still remains in its place. The hypothesis of Professor Forbes that this might be his planet therefore falls to the ground. As before pointed out, if Professor Forbes's planet really existed, it would probably be so faint (like a fourteenth-magnitude star) and would move so slowly that it could not be detected without enormous labor with an exceeding powerful telescope.

PNEUMATIC CLOCKS.—Pneumatic clocks have been successfully established in Paris, both for public and private purposes. The subscribers are supplied with dials on this system for the sum of a halfpenny per day. Air is compressed to five atmospheres in a reservoir at the central station. A distributing-clock places this in communication with distributing-pipes for twenty seconds every minute, the used air being again employed to wind automatically the original train. The distributing-tubes are of iron, 27 millim. in bore, carried under ground. These, by leaden or india-rubber connections, communicate with the affiliated dials. The dial has a small caoutchouc bellows, similar to that of the pneumatic telegraph, acting on a lever, which takes, by means of a ratchet, into a wheel of 60 teeth, carrying the minute-hand. The hour-hand is moved by the usual motion-work. Striking-clocks are also fitted up on the same system for the small increase in price of a single centime, namely, six instead of five per diem. It appears that the whole expense is from fifteen shillings to a pound per annum.

ILLUSTRATING POLARIZED LIGHT.—A beautiful illustration of the laws of polarization of light has lately been made by M. G. Govi. Let a parallel beam of light be passed through a polarizer, then through a thin slice of quartz cut perpendicularly to the optic axis, then through an analyzing Nicol prism. It is seen, as is well known, to be colored. This colored light when passed into a spectroscope gives a spectrum marked by one or more dark bands, corresponding to the particular rays whose relative retardations in passing through the crystal slice have produced interference. These bands are not always in one place; they are displaced right or left (according to whether the crystal is a right-handed or a left-handed specimen) if either the analyzer or the polarizer be rotated. A slice of quartz about 4.3 millims. thick produces a single band. One of 8.6 millims., two bands at once in the visible spectrum, the number of bands being proportional to the thickness of the crystal. Now suppose a mechanical contrivance by which both the analyzer and the spectrum can be rotated at the same velocity. A direct vision prism attached to the front of the Nicol prism realizes the optical portion of this combination. There will be seen on rotation a circular spectrum, having either red or violet at the centre, and either violet or red at its outer circumference. Now since the dark band spoken of is displaced by a quantity proportional to the amount of rotation, interference will take place in this circular spectrum along points which form geometrically a spiral of Archimedes. The persistence of impressions on the retina will enable this dark

spiral to be seen in its entirety, provided the rotation be sufficiently rapid. If a thicker piece of quartz be used, giving two, three, or four dark bands, the rotation-spectrum will present a most beautiful appearance, being crossed by a two-branched, or three-branched, or four-branched spiral, the separate lines of which proceed from the centre to the circumference. The sense of these dark spirals will change with the sense of the impressed rotation. The effects, says *Nature*, are very striking.

AN EXTRA BONE IN THE HUMAN WRIST.—Dr. Eugène Vincent has found an additional (ninth) bone in each wrist of an old Arab. The first row of carpals consisted, as usual, of four bones, but the second row had five; the supplementary bone, which was equal in size to the pisiform, was between the trapezium and the grande, and it was applied against the scaphoid above and the trapezoid in front, but articulated by one of its faces with the second metacarpal. The structure was the same in both wrists. The orang and most of the lower apes regularly possess a ninth bone in the carpus, but this differs somewhat in position from the bone found by Dr. Vincent, and does not appear to reach the second metacarpal bone which is nearest to it. In the quadrumana, Cuvier considered the supplementary bone to be a separated portion of the grande; but according to the opinion of M. Alix it is rather a dismemberment of the scaphoid. Dr. Vincent regards the ninth bone in his Arab as probably derived from the trapezoid, which was much reduced in size.

ARTIFICIAL GLOBE LIGHTNING.—The following passage occurs in an old book entitled "New Dissertation on the Electricity of Bodies." "The 12th January, 1748, easterly wind and great cold. I stretched out a large cat on the coverlet of my bed, and on rubbing it I obtained in the darkness sparks of fire, the sound of which much resembled that of a comb when the hand is passed over the teeth. A thousand little points of fire danced about here and there, and, by continuing the friction, the sparks augmented to such an extent that they appeared like *spheres* or *balls* of fire, of the size of a hazel nut. I observed these little *globes* detach themselves from the body of the cat, fall upon the coverlet, rebound like foot-balls. . . . A thousand balls of fire were moving over the cat and on the coverlet; I observing attentively. I approached my eyes to a ball which appeared more luminous than the others. Immediately I heard a kind of explosion or crackling, and felt a pricking sensation in the eyes. There was no shock in any other portion of the body; but the pain was followed by a weakness which caused me to fall on my

side. It was some minutes before I recovered." Unfortunately, the conditions for the repetition of the experiment are not very readily obtainable; otherwise considerable light might be thrown upon the undoubted phenomenon of "globular lightning."—*Electrician*.

EDUCATION OF THE DEAF.—The meeting of the International Congress for the education of the deaf at Milan may be regarded as important, for they resolved to discard signs in teaching, and to adopt the "pure oral method." The president, Abbé Tarra, said in his address, "Signs must be altogether abjured, though a few simple gestures may be allowed when the little child is first introduced to school-life. In the school-room begins the redemption of the deaf-mute. He is waiting to be made into a man. Let him be taught to move his lips in speech, not his hands in signs. Of all movements for the expression of ideas, those of the lips are most perfect. Speech is addressed to the intellect, while gestures speak coarsely to the senses." These views were supported by speakers from different parts of Europe; and from experiments made in England and other countries there is no doubt that persons utterly deaf can be taught to speak by watching the movements of their teachers' lips.

LIGHT AND VEGETABLE GROWTH.—From observations made during nearly twenty years in a forest in the Jura, it appears to be proved that: (1) when light strikes the ground without having been sifted by foliage, it stimulates the production of carbonic acid in the soil; that (2) the growth of wood is diminished when the underbrush is so thick and tall as to impede the passage of sunlight to the soil, and its reflex action on the branches of the trees; and (3) that mould in too great a thickness becomes inert, and thus remains many years, as is the case with farm-yard manure when too deeply buried.

THE COURSE OF A LIGHTNING FLASH.—Professor Tait, of Edinburgh, insists that when people think they see a lightning flash go upward or downward they must be mistaken. The duration of a lightning flash is less than the millionth part of a second, and the eye cannot possibly follow the movements of such extraordinary rapidity. The origin of the mistake seems, he says, to be a subjective one, viz., that the central parts of the retina are more sensitive, by practice, than the rest, and therefore that the portion of the flash which is seen directly affects the brain sooner than the rest. Hence a spectator looking toward either end of a flash very naturally fancies that end to be its starting-point. It is singular that

no one has yet suggested the exceedingly simple and obvious explanation that the flash being oblique and instantaneous appears to start from the bottom or top, whichever is nearest to the spectator, owing to the time required by the light to travel over the different interval of space. The top of a flash may be a mile farther off than the bottom.

MISCELLANY.

BEAUTY.—Forms of beauty, whether elementary or complex, are primarily found in nature, but the creative idea is often marred, dross debasing the pure gold. Yet nature strives to purge away impurities, to cast out deformities, and to preserve and develop the normal type; whenever nature reaches her standard of perfection she is beautiful. Beauty constitutes the ideal, and the true ideal in art corresponds to the perfected real in nature. Outward and visible beauty is announced and determined by the response and approval of the mind, the mind being made for beauty as the eye is constructed for light: the inward intuitions planted in man pulsate, as chords of a lyre, to the vibrations or impressions from without. Beauty obtains a twofold sanction when it exists as the perfection of outward nature, and when it obtains the approving response of the best minds. Beauty stands in some undefined relation with truth and goodness. Partial and incompleteness of beauty often contains an admixture of error and badness, but perfect beauty is without alloy, and lies in continuity with truth and goodness; the three conjoined making an unbroken circuit, each fortifying the other. All beauty becomes the more confirmed when it has been sanctioned and made manifest by the great artists of the world, and when it is embodied in the master-works of the foremost architects, sculptors, or painters. Beauty resides within every true and good work of art, just as the soul dwells within the human body—it is there to a certainty—we have only to find it out. And forms of beauty appear with overwhelming evidence when they obtain, as just indicated, a threefold warranty: when they possess the impress of the Creator in nature; when they have gained the approval of the artist by a place in universal art; and lastly, when they have awakened within humanity an allegiance and a love. And these manifold phases of beauty declare what they are by the pleasure they impart: beauty always pleases, and what displeases is unbeautiful; it is her privilege to lead from joy to joy. The worth of any beauty is measured by the dignity of the emotions awakened; the use of beauty is to elevate, adorn, and add to the enjoyment of life.—*Good Words*.

WHAT IS A COLD BATH?—The season of the year when very many people who have experienced pleasure and advantage from a daily cold bath have to discontinue the practice has come. Months will elapse before the return of genial weather will allow of their indulgence in what may be termed man's natural stimulant. Among the young and robust there are a large number who are able to bathe even in the depths of winter; the advantage of so doing is, however, questionable. But let it be once well understood what a cold bath really is, and the course by which we can avoid Scylla and Charybdis will be obvious. A cold bath is not necessarily a bath in water of the temperature of the atmosphere. A bath is truly and really cold when it produces a certain physiological effect—a slight momentary shock followed by pleasant and lasting reaction. These effects are for the majority of people most pleasantly obtained by bathing in water about 35° to 40° below the temperature of the body—the usual temperature of unheated water in June and July. Bearing this in mind, we can enjoy our physiological "cold" bath as safely and pleasantly at Christmas as at midsummer, and there is no necessity for the most timid or weakly to discontinue his morning tub because the summer weather is over. When the water sinks below a temperature of 60°, let it be heated to that point and then used, and we shall still have our "cold" bath, though of heated water. The daily stimulant effect of such a bath is so beneficial to the great majority of persons, and is of such marked service in maintaining health, that it is very important to have it widely known that a cold bath may be taken all the year round, provided cold is not mistaken to mean "at the temperature of the outer air." To heat our bath during the winter months is too often thought to be unmanly, while in reality it is truly scientific, and to bathe in unheated water all the year round, whatever the temperature that water may be, is to prove one's self an ignorant slave of outward circumstances.—*Lancet*.

EYE MEMORY.—Look steadily at a bright object, keep the eyes immovably on it for a short time, and then close them. An image of the object remains; it becomes, in fact, visible to the closed eyes. The vividness and duration of such impressions vary considerably with different individuals, and the power of retaining them may be cultivated. Besides this sort of retinal image thus impressed, there is another kind of visual image that may be obtained by an effort of memory. Certain adepts at mental arithmetic use the "mind's eye" as a substitute for slate and pencil by holding in visual memory pictures of the figures

upon which they are operating, and those of their results. In my youthful days I was acquainted with an eccentric old man who then lived at Kilburn Priory, where he surrounded himself with curious old furniture reputed to have originally belonged to Cardinal Wolsey, and which, as I was told, he bequeathed to the Queen at his death. He was the then celebrated, but now forgotten, "Memory Thompson," who in his early days was a town traveller (for a brewery, if I remember rightly), and who trained himself to the performance of wonderful feats of eye memory. He could close his eyes and picture within himself a panorama of Oxford Street and other parts of London, in which picture every inscription over every shop was so perfect and reliable that he could describe and certify to the names and occupations of the shopkeeping inhabitants of all the houses of these streets at certain dates, when Post-Office Directories were not as they now are. Although Memory Thompson is forgotten, his special faculty is just now receiving some attention, and it is proposed to specially cultivate it in elementary schools by placing objects before the pupils for a given time, then taking them away and requiring the pupil to draw them. That such a faculty exists, and may be of great service, is unquestionable. Systematic efforts to educate it, if successful, will do good service to the rising generation; and, even should the proposed training afford smaller results than its projectors anticipate, the experiments, if carefully made and registered, cannot fail to improve our knowledge of mental physiology.—*Gentleman's Magazine*.

INDIAN IDEAS OF LIGHTNING.—The Indians of America have some curious ideas about thunder and lightning. Recently two Indian women were struck by lightning in the neighborhood of Fort Bufford as they were carrying provisions to the garrison. The Indians could not be induced to stay near the bodies, which they thought to have become the habitation of an evil spirit. The catastrophe was attributed to the presence of whites. Nearly all the Indians of the United States imagine thunder to be caused by the flapping of the wings of a gigantic bird, while the flashes are iron serpents which everywhere accompany this animal. The ancient tribes of the Mississippi valley worshipped thunder in the form of a god, who was to be propitiated with sacrifices; they offered him a dog whenever it thundered, or a child fell ill. This god was believed to produce fires. The natives of Honduras burn cotton seeds on the altar of the gods whenever it thunders. More southern tribes do not offer sacrifices, but prostrate themselves abjectly on the ground on approach of a thunder-storm (which naturally

diminishes their chance of being struck). In Mexico sites for temples are supposed to be indicated by the Deity where lightning strikes.—*English Mechanic*.

THE ENGLISH LANGUAGE.

A PRETTY deer is dear to me,
A hare with downy hair;
I love a hart with all my heart,
But barely bear a bear.
'Tis plain that no one takes a plane
To have a pair of pairs;
A rake, though, often takes a rake
To tear away the tares,
All rays raise thyme, time raises all;
And, through the whole, hole wears.
A writ, in writing "right" may write
It "wright," and still be wrong—
For "write," and "rite" are neither "rig"t.
And don't to write belong.
Beer often brings a bier to man,
Coughing a coffin brings,
And too much ale will make us ail,
As well as other things.
The person lies who says he lies
When he is but reclining;
And, when consumptive folks decline,
They all decline declining.
A quail don't quail before a storm—
A bough will bow before it;
We cannot rein the rain at all—
No earthly powers reign o'er it.
The dyer dyes awhile, then dies;
To dye he's always trying,
Until upon his dying-bed
He thinks no more of dyeing.
A son of Mars mars many a sun;
All deys must have their days,
And every knight should pray each night
To Him who weighs his ways.
'Tis meet that man should mete out meat
To feed misfortune's son;
The fair should fare on love alone,
Else one cannot be won.
A lass, alas! is something false;
Of faults a maid is made;
Her waist is but a barren waste—
Though stayed, she is not staid.
The springs spring forth in Spring, and shoots
Shoot forward one and all;
Though Summer kills the flowers, it leaves
The leaves to fall in Fall.
I would a story here commence,
But you might find it stale;
So let's suppose that we have reached
The tail end of our tale.

LOVE SONG.

My will is gone to sleep, dear,
And only you can wake it;
My heart is in your keep, dear,
To hold or drop and break it.
One day I hold most dear, sweet,
The day when first I met you,
One thing I see most clear, sweet,
I never can forget you.
Daylight without your eyes, dear,
For me all brightness misses,
And most in life I prize dear,
The memory of your kisses.

WALTER H. POLLOCK.

